

Rocking the Boat at the Adirondack Museum; Special Row Row South Boats, Road of the Boat at the Adirondack Misen,

messing about in

BOATS

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Editor and Publisher is Bob Hicks

Production and subscription fulfillment is by Roberta Freeman

For circulation or production inquiries or problems, contact:

Roberta Freeman at officesupport@comcast.net

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# Commentary...

Bob Hicks, Editor



On the last day of September I went sailing. Now you might assume that in my role as editor of a small boat magazine I did this all the time, or at least quite often. Not so. This past season (by October 1, as I write this, our New England season is about over) I paddled, as mentioned occasionally on this page, using my daughter's 13' Old Town kayak to join friend Charlie in his 10' Heritage kayak on a number of quite unspoiled (aesthetically anyway) flatwater rivers and lakes in Massachusetts. Just a mite of downwind sailing took place on some of those outings with Charlie using an umbrella and I a sort of fan shaped rig, but this was hardly real sailing.

Yesterday was real sailing in friend Paul's Stonehorse sloop in brisk NW winds, 15-20mph gusting to 25mph. We enjoyed about a three-hour romp across Salem Sound from Paul's mooring off Beverly's West Beach over to Salem Harbor and back, reaching both ways. Out of respect for the NOAA small craft advisory and the actual winds, Paul tucked a reef in the main and never unfurled the roller furled staysail on the 24' cutter.

The Stonehorse is a lovely boat. When Jane and I first became interested in sailing we attended the Newport Boat Show (around 1976, I no longer recall the exact year) and fell in love with Peter Duff's new fiberglass Stonehorse, so much more appealing to these nonsailors than the slab-sided floating Winnebagos on offer. But even then the Stonehorse was priced around \$15,000, far more than we could consider, not only because of our limited financial resources but also because we were unsure if sailing was indeed something we wanted to do. We took home a copy of Peter's delightful brochure and I think it is still around here somewhere in old files, a dream book for something that never happened.

I have sailed with Paul in the past, both on his current Stonehorse and on the preceding Cape Dory 19. He has been around the water all his life, growing up on the Massachusetts North Shore, fishing for food as a kid for the family table. He has a commercial skipper's license and for a while did try chartering his Stonehorse as well as skippering a local historic replica tourist vessel.

His Stonehorse was bought really cheap in need of a lot of rehab which he has carried out over several years of owning and sailing her. Major rehab involved replacing the junk gasoline engine with a two-cylinder Diesel and extended the flush deck back 3' into the cockpit to create more interior room. The shortened cockpit still serves his sailing as he often sails alone or with a single companion.

At times on our outing I had moments of flashback to an adventure with Paul in his Cape Dory (another great little boat) many years ago. When one of the 25mph gusts would hit us and the boat would really heel over (or so it seemed to me at the tiller looking down into the water alongside the deck) I could see the coaming of the little Cape Dory going under in even stronger blasts on a late season (November) sail to Gloucester and back. Water poured into the cockpit and unbeknownst to us at that hectic moment poured through a open Beckson hatch into the lazarette and on down below, floating the cushions off the bunks. We luffed up and, with the sails loudly slatting away, bailed out belowdecks with a bucket.

Nothing like that happened yesterday, we were flying conservative sail and the Stonehorse forged on with the water still well below deck level. As we came back to the mooring Paul announced that he no longer found picking up the mooring under sail to be an exercise in which he wished to indulge. So he started up the Diesel and we motored up to the mooring handily, no fuss.

On the last reach toward the mooring, with the boat well heeled in the stronger gusts, Paul had the tiller and was grinning as the boat surged ahead. "There was a time," he shouted over the wind, "in conditions like these that I'd have everything up there going for it." Ah so, I well remembered. Now he was happy enough to enjoy a relaxing laid back sail.

We agreed that it was our years adding up that were blunting the edge of adventuring for us. What passes now for adventure for me becomes ever more modest in scope. I still sometimes envision "going for it" in a manner I once did in whatever endeavor I might undertake, but reality prevails and I opt for what Paul offered yesterday, a "comfortable" outing under sail on a lovely sunny, windswept early fall day. Just being able to, and wanting to, enjoy such mild adventuring still brings its pleasures.

#### On the Cover...

This brand new replica of an Adirondack logging bateau, built by nine young people from the Bronx, New York's Rocking the Boat over the summer in the Adirondacks, was launched at the Adirondack Museum in Blue Mountain Lake in September, the end product of more than a year of collaboration among three institutions. A full report is featured in this issue.



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More than likely. There is a delightful book out by Daniel Spurr called Heart of Glass. What a bittersweet walk down memory lane flipping through those pages of familiar pictures can spark. I probably have a dozen more books of the same genre, covering the origins and the evolution of a world wide fascination with boats built for the "common man." Someplace I may still have at least a small percentage of brochures, critical analyses, magazine articles, and even personal photos I collected, and pored over, of boats from just about every major factory and most prominent designers of those boats from the late 1960s up through the late '70s. To my mind that was the Golden Age of sailboats built and merchandised for the "common man." One can make a darned good case for that notion at any event.

I'm pretty sure the REAL Golden Age was a lot shorter, probably more on the order of 1969 to 1976. Before that we had fiberglass sailboats aplenty. But if you study the lot of them, almost all, West Coast products especially, were copies of each other and essentially smooth interior versions of somebody's long counter wooden boat hull with a shoebox lid for a deck. Then, in the blink of an eye, EVERYBODY was both vying to produce a boat that could both race with "the guys" and take vacation trips with the whole family returning to port alive, and even rested

and happy. A tall order.

To be "fast" most of the 24' to 36' boats tried to measure up to one or other interpretation of a couple of measurement rules. To be a family boat they had to have berths, tons of 'em, a copy of a travel trailer bathroom, tables to seat four or more, and lots of other dichotomous features. Ah yes, the sales brochures shifted from the black and white shots of both the inside and outside of, apparently, the self-same Clorox bottle writ large, seemingly overnight, to full color renderings

## Is the Golden Age of Sailboats Over?

By Dan Rogers

of cabinet doors with rattan inserts, sculpted fabric seat cushions, complex foldaway furniture, even wine racks on 7,000lb "offshore cruisers." Boats got sexy, almost overnight.

Small cruising sailboats were built, sold, and sailed all over this country. Everybody had an angle. Everybody was unique. Well, sort of, anyway. Just about everybody bought their hardware at the same place. Almost all the engines were made-over tractor motors from Universal and Palmer. You could get a Diesel but other than the Scandinavian imports, with colossus' from Volvo or Saab it would likely be something of few cylinders and much vibration. And almost everyone stuck their decks on with pop rivets and selftapping screws. But my, there was a shape, size, and overall design concept for damn near everyone.

Then one morning the world woke up to something we called the Arab Oil Embargo. Just about everything in the boating world changed. Oil and its derivatives got expensive. At just about the same time peace broke out in Viet Nam. Some would say that we declared victory and quit the field. Either way, the unpaid bill for LBJ's "guns and butter," OPEC's sudden ability to affect the hearts and minds of the American consumer and the rapidly inflating monetary system all seemed to take the steam and then the starch out of our domestic boat builders. Just about all the big houses folded or were conglomerated, divested, bought, and then folded by or before New Year's Day 1980. As quick as it started, it did seem to be all over.

Granted there are continuous names: Catalina, Hunter, and some smaller houses survived and prospered. But when I walk down along the small boat slips in the marina here in Chula Vista, the vast majority of older boats have birth certificates from 1969 to 1976. And most of these apples haven't fallen very far from the tree indeed. Just about all of the boats still floating around here were born just up the road in Costa Mesa, California. Most came from Placentia Street factories, to be specific. These boats constantly circulate from owner to owner, slip to slip, marina to marina. But, in the current reality, they are just old boats in a culture that more and more requires EVERYTHING to be "new."

If I remember correctly, an Ericson 27 sold (base price) for around \$5k in 1973. By 1975 that had doubled. Soon after the company disappeared. Most of them still sell for that range, 30+ years later. There were virtually none of these boats built from the late '70s until sometime in the go-go '90s. Today a new Catalina 27 costs as much as a nice house in Des Moines. My point? The '70s vintage boat can still sail as fast, or faster, than her shiny new sister. But the plumbing is crumbling, the engine already replaced at least once, the wiring fit for bird nesting, and so on. My point?

I meet very, very few people much younger than I am who even know how to rebuild a marine head, much less would be willing to dig the soupy core material out of a delaminated deck and redesign a compression post that never really carried the load, even before rot set in. There just isn't the willing work force to bring these boats back to life. And the new ones are, in many cases, less capable, less well appointed, and absurdly expensive. Heck, a small hard bottom inflatable with a high revving outboard can run 20Gs or more. And those don't have either berths for five or an enclosed head. But find me someone under 35 who values the scent of mildew and the sheen of vinyl cushions and maybe, just maybe, you have shown me the salvation for reasonably priced, really quite capable family cruising boats.

The alternative is a horde of those "raccoon boats." You've seen 'em. They're supposed to be trailerable. They come with wheel steering and a huge motor up to 65hp. They come with apparently high tech, high aspect "racing" rudders and dagger boards, even rotating masts. Wow. Of course, at least to my view, the only wood on these boats is in the buyer's noggin. And believe me, they

sail like poop.

I know the Golden Age of small cabin sailboats is over and long dead. I fear the future of small cabin sailboats is quite limited and rather bleak, all in all. But hey, what if I offer to hold classes? Today we'll be eye splicing the anchor rode and lagging the dry stack. Tomorrow, how about a design seminar on the vicissitudes of plumbing a holding tank, and later on we'll get the inverter and the smart charger to connect with those new, larger batteries that need a new space constructed under the port quarter berth. Next we'll pull the chainplates and rebed all those lifeline stanchions...

Oh, you say, that's not quite what you had in mind when somebody told you that sailing was soooooo peaceful and relaxing? Better go buy a new boat, I guess. And sure, I'll even help you tie it up. You won't likely be going out more than about once, after that, anyway.

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By Matthew Goldman

## From the Journals of Constant Waterman

My earliest memory of Chapman Pond dates from 1952. My father and I walked down the woods road from the farm where we had gotten permission to dig a Christmas tree. We had a hundred acres of our own but it grew only cedars and hemlocks. This farm had Norway spruce. We dug two trees, one a well-shaped tree for our living room, the other a tiny tree which I planted, myself, in a corner of our yard, too close to the stone wall and in the shade of large maples.

It still grows there, half a century later, but stunted, no more than 20' tall. The Christmas tree, after a brief sojourn in front of our library window between the two tall bookcases, we planted in the yard, nearer the house than the barn, where it throve quite well. Today a magnificent tree in its prime, it stands 50' tall, producer of countless cones that

delight the squirrels.

Oh yes. I meant to tell you about the pond. It connects to the river and has a couple of feet of tide and marshes filled with yellow flag and mallows. After the holidays we returned to the farm and wandered down hill through the woods for half a mile. You could also follow the old cart track leading down to the water. In those days it hadn't grown over. You could even drive it if you weren't in a hurry. I find it deplorable how much most people hurry nowadays. I've managed to overcome my early freneticness for the most part.

People used to ask me why I didn't strap an outboard on my canoe to ferry goods out to the island when I built my cabin. It would save

time, they explained.

Time for what?" I always asked. After working, running machines all day, why would I want to listen to a noisy, two-stroke engine? And how could I listen to the summer wind soughing through the cottonwoods? Or hear the cry of the heron? Bad enough to hear traffic crossing the swing bridge at Goodspeed's Landing. I enjoy my world unpolluted by motors, thank you kindly.

Besides, paddling is a yoga, stroke and exhale, stroke and exhale, feel your shoulder muscles tense and relax, tense and relax. And listening to the whisper of my smooth hull cleaving the water delights me, no matter how many years I may have paddled. As I said, one could

navigate the cart track if not in a hurry.

When we came to the pond we discovered two men ice fishing. In those days the glacier had receded only as far as Massachusetts so we still had lovely winters. The ice on Chapman Pond looked about a foot thick where the fishermen had cut holes and they had driven their pickup truck onto it. Brockway Island, opposite Hamburg Cove, has a full-sized house on it and someone drove the lumber out there many years ago. We had ice in them days, children.

I can remember Coast Guard icebreakers coming upriver because the small tankers couldn't deliver their heating oil to Hartford. When the Coast Guard finished, huge shards remained, jammed to either side of the frigid channel. They gave the tide something worthwhile to wrestle with. Our neighbor across the brook back home, an elderly woman, recounted skating the 15 miles to Middletown as a girl. That would have been about the turn of the century. No, children, not 2000.

For various reasons things were more laid back before my time. The riverboat even stopped at Hadlyme, population 274 (what's that, oh, she had the baby, a girl, good for her), 275, until the late 1930s. It carried freight and passengers between New York and Hartford.

There still remain vestiges of old pilings out front of the Hamilton house below the ferry slip where the landing used to stand. I kept my canoe at the Hamilton house when I built my cabin on the island known as the Old Haying Grounds, because they would cut salt hay there, out beside Chapman Pond. At high tide I needed to watch for the rotten stumps of those pilings beneath the surface.

The Hamilton house, a stately Colonial shaded by huge trees, had an addition that someone fished out of the river a lifetime ago. Dr. Alice Hamilton, the first woman ever to obtain a medical degree from Harvard, lived there until her death at 101. I was just a boy then. My father once met her. Her sister, Edith, the popular Greek scholar, wrote those books on mythology we still have in the study.

Did I tell you about those fellows who were ice fishing on the pond?

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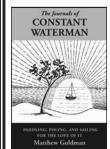
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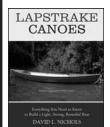




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#### **Another Way to Mess About**

We were in Vancouver, Canada, last June and stumbled across a big crowd on the shores of a quiet backwater off the harbor. We walked up to see what was going on, Dragon Boat Races. These boats were like big war canoes with dragon heads. Each vessel carried 20 paddlers plus a helmsman and a drummer.

We chatted up one of the spectators who turned out also to be a participant. He said 165 teams were competing. There were 16 boats and they ran eight boats to a heat. Each heat was 500 meters. We saw that a time of 2.2 minutes would probably win a heat, at least toward the beginning of the event when we were there. Competition got stiffer as the weekend wore on. Each team would compete in about four heats as losing teams raced against other losing teams as well as winners vs winners.

It was all very organized with one set of eight boats loading up while the other set were paddled out to the starting line then raced back at the sound of the gun. We could see that the better teams were more synchronized in their paddling than the less experienced teams.

What a nice way to mess about in boats. Here are fitness, companionship, team work, and the opportunity to travel. One could even make his own paddle or even dragon boat.

George Fulk, Talequah, OK



#### Adventures & Experiences...

#### Different Sort of Boating Vacation

I just returned from a different sort of boating vacation on the Chesapeake aboard my brother-in-law's 1968 58' totally restored Chris Craft. She's a beautiful boat and was very handy dealing with the Labor Day mayhem on the Sassafras River as she could simply ignore most of it. We motored elegantly at 6kts through crab traps and nautical maniacs along the length of the Sassafras and out into the bay without spilling one martini. It was a different kind of messing about but very enjoyable.

I've enclosed some pictures of the Chris Craft's helm station (beautifully restored) and an old Chesapeake tugboat.

Joe Bohnaker, El Paso, TX







#### **Heartfelt Article**

I felt compelled to write this letter because of the heartfelt article, "When Should You Build a Boat?" by Hugh Groth in the September 15 issue.

Groth described my situation with uncanny accuracy. I've been weighing in my mind my "Small World" houseboat project almost every day for the past four or five years. Groth pushed me past my indecisiveness about it. I'm going to begin construction on "Small World."

I've already "built it" in my mind, every step of it, and have actually built three different models; 1' long, then 2' long, and finally a 4' long scale model that provided accurate flotation information and construction details. I also have built two of the four pontoons that will safely float the 8'x12' deck. Most importantly, I have worked out my unique fast-ake-apart construction details that allow it to be separated into thre flat, stacked sections that can be carried on a small utility trailer. Each of these sections can be easily handled and loaded by one man.

I've had the 7'x8'x6½' headroom cabin built now for over four years continuously erected in a back corner of our one acre property. It looks very nice and I've slept in its comfortable bed (also take-apart) on many nights, several times in winter snows. This cabin can be treated as a project separate from the boat. I call it my "Portable Yard House." It can be carried stacked flat on a car top rack to a chosen campsite. It erects or takes apart in less than one hour.

There's nothing on the market like this cabin that's as easy to build with only about \$50 worth of materials, not to mention the houseboat of which it will form a part.

Inspired by Groth's article I am going ahead and will be photographing stages and taking notes for an eventual building manual.

Walter Head, 1178 Laurel Fork Rd., Vilas, NC 28692

#### Information of Interest...

#### **Osprey Diving**

I just had to write in response to Dave Carnell's letter in the September 1 issue in which he said he had never seen an osprey flub his dive and be unable to fly away. I have! In back of our condo in Maryland is a "swamp control" pond. I looked out one day and saw an osprey literally spread eagled on the pond. Just sitting there. Suddenly he jumped up and flapped like crazy without really lifting off and flopped back down, sprawled out again. He did this several times and I could see he had a large fish and would not let go! Finally, after getting the fish nearly halfway out of the water, he dropped it and flew off. He may not have flubbed his dive, but he didn't just fly away.

Dick Malone, Chester MD

#### Black Skimmers, Round II

I agree with Dave Carnell ("Fascinating Seabird," 9/1/07) that the black skimmer (rynchops niger) is a fascinating seabird. I've spent hours watching them here on the Gulf coast while sailing, fishing, or walking on the beaches. On still days they pass so close that I can heard the sluicing sound they make as they carve a V on the still water. There's something almost therapeutic about watching them. But all that grace is in contrast to their call, a croaking squawk that sounds like an abruptly

wakened parrot. Search for "black skimmer" on fotosearch.com for photographs.

Yes, I have seen skimmers trip over things in the water or the bottom. While they do a marvelous job of avoiding larger floating objects, they'll occasionally hit something small, like a floating grass stem or my fishing line. In very thin water along the edge of the beach or a bar it seems that they contact the bottom once in a while. In any case, it doesn't seem to bother them much. They bob their heads downward and backward briefly to disengage and then continue unabashed.

Skimmers don't limit their bill-dragging fishing to shallow water. I've often watched them working in 10' to 20' of water. Another interesting thing is that their bills are extremely thin, especially the lower part that cuts the water. On the two bills I've found on the barrier islands the base is only about the thickness of a nickel and the tip is paper thin.

Since this rambling about birds ought to have some connection to messing about in boats, I'll disclose that I sailed out to the islands in my SeaPearl when I found those skimmer bills.

Don Abrams, Ocean Springs, MS

#### Projects...

**Building Rescue Minor** 

Robb White inspired me to want a Rescue Minor even though I never met him. The people who contribute to *MAIB* gave me the encouragement to build one myself although I never met any of them.

Since it is the first boat I ever built I pretty much followed the plans and used plywood for the hull. The Kubota Diesel and Robb's cooling system work really well. Because of my lack of experience I decided to install a gearbox.

I finished it in August and have been working out the bugs. It should be a good boat for the sounds and rivers in northeast North Carolina. I'll let you know how the cypress stumps treat it.

Ron Hazelton, Camden, NC

## This Magazine...

#### Head and Shoulders Above the Pack

Your publication has the best value in quality of content of any publication, bar none. Head and shoulders above the pack, not just marine mags. Don't change a thing, especially your attitude. Many thanks for your work.

George Lewis, Framingham, MA

#### **More Lead Time**

All of my mail is forwarded so my lead time is several weeks. Why not mail renewals earlier? I got mine August 11. (It was mailed July 25, return deadline was August 22. **Ed.**).

Carl Krall, Mesquite, NV

Editor Comments: We mail renewal notices so that subscribers receive them about a month prior to the deadline for uninterupted delivery. Mailing later than this leaves too little time we have learned, mail much earlier and the notice is put aside and forgotten as there still seems to be plenty of time. Despite this about 25% who renew fail to do so with the first notice and act only when the "Did You Forget?" letter arrives.

#### Wife Likes the Sailing Stories

Just a note to let you know that I really enjoy reading your publication. My wife also likes to read the sailing stories. Don't change anything.

Harvey Smith, Hampden, MA

Editor Comments: From time to time readers urge me to not change anything. Rest easy, I don't plan to make any changes. Just because I sometimes publish comments from some suggesting I do so doesn't mean I am going to do so.

#### **Best Reason for Opening Mailbox**

*MAIB* is the best reason I have for opening my mailbox. I especially benefited from Mark White's "Building a Boat Shed" in the August 15 issue. I think, where to put it should always precede what kind.

Jacques Yellott, Charlottesville, VA

#### Not Abandoning MAIB

Just a note to let you know that I'm not abandoning *MAIB* but am switching to the online version through Duckworks largely so my back issues don't take up as many feet of valuable bookshelf. It's not as nice a reading experience but I am a pack rat in a small nest.

Steeve Mohn, Brooks, OR

#### Poets' Corner...

I stumbled upon this little poem I wrote about 15 years ago. It was about the first boat I built and we were still learning how to sail.

Jon DeGroot, Davison, MI

#### Out on Blue Bell Lake

The wind was really blowin', It was drizzling just a little, But that was better than snowin'. Had drove out here in the jeep With the dinghy strapped to the rear. Our supplies included jug of water And six cans of Old Style beer. Dropping the boat into the lake, Then stepping up the mast, I knew today was going to be A real sailor's test. Running straight downwind We went to change direction, A sudden gust of wind blew, That's where we missed our connection. She heeled over a little, I waited for her to recover. Then suddenly she kept on going! That water's cold I did discover.

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## Row, Row, Row Your Boat

Weeks on the Bay in the John Smith Shallop

By Cindy Ross Reprinted from Chesapeake *Bay Journal* 

There is only the sound of the six wooden oars slapping the water and the creak of wood in the oarlocks. Some of the crew blow out breath as they pull back on the 25lb, 16' oars, others grimace quietly. I watch the bank and can see that we are barely moving, even as the crew strains. A stiff breeze is blowing against them as they attempt to enter Chesapeake Bay.

"OK crew, we need to row as hard as we can for 15-minute intervals," directed their leader, Capt Ian Bystrom. "Right now we're making waves. That's a good sign."

The crew had no warm-up time this morning and that is always tough. They camped last night in a protected cove outside Rock Hall on the Eastern Shore of Maryland.

"Get ready to drop the parking hook (anchor)!" Bystrom yelled and the rowers hustle to switch places with the other six crew members. In the meantime, the bow gets blown off course. It will break their hearts if they have to get towed out to the Bay. Capt John Smith was never towed.

These 12 modern day adventurers are retracing the historic 1608 voyages of John Smith. Four hundred years ago Smith set off with his crew from Jamestown to explore and map the Chesapeake and its tributaries and look for a water route to the west.

He and his crew rowed and sailed a shallop, an open boat that arrived in the New World in pieces, transported in the hold of the *Susan Constant*. In commemoration of the anniversary, the non-profit Sultana Project in Chestertown, Maryland, built a 28' reproduction using many tools and shipbuilding methods of the 17th century.

The hand-picked crew of 11 young sailors and their captain began their journey May 12 and will have ended it September 8. They will have traveled 1,500 miles to nearly every corner of the estuary and its rivers. Like Smith, they follow most rivers to their fall line, the rocky area where the Coastal Plain bumps against the Piedmont, making travel further upstream difficult.

In their 121-day voyage the sailors are also blazing the path for the United States' first National Historic Water Trail. Established in 2006 by an act of Congress, the Captain John Smith Chesapeake National Historic Water Trail will ultimately assist modern day sailors to explore 2,500 miles of waterways in the Bay area while learning about Native American history, early English settlement, and the Chesapeake's abundant resources.

As they relive the adventure the crew are not only introducing millions to this moment in our nation's history but also raising awareness of the Bay. This morning, though, it is the difficulty of Smith's journey which is most palpable.

"We're so close!" Bystrom encouraged the rowers. "She's starting to come around now. Here we go! "

The crew worked fluidly to prepare the sail. Quickly the painful rowing is replaced by peaceful sailing. A bald eagle soars the

morning skies and the crew moves around to find their comfortable spots. They settle into reading, napping, snacking, singing a few lines from a classic rock song, chatting or just thinking.

"I think about Smith a lot out here," said crew member Austin Hall. "About pulling up to shore and how unbelievably interesting it would be to see what he saw. At Mount Vernon we saw 300-year old trees that just dwarfed the trees on the Bay now. One of the reasons why the Bay was so healthy was because it had this incredible green sponge around it.

"I think about the oysters that were once here, too," Hall continued. "An individual oyster could filter 50 gallons of water in a day. All together, in three days they could filter 18 trillion gallons of water. The oyster reefs were so huge they were navigation hazards and now there are hardly any left. I know there is a huge difference in water clarity. Compared with John's Smith's day, it is like pea soup a lot of the time."

There are other changes besides the disappearing oysters that the crew has seen and documented. "One of the biggest changes since Smith's voyage, outside of land development, is the rise in sea level of 3' since his time," Bystrom said. "We have lost a lot of shoreline. Many islands don't exist anymore. We just sailed over two yesterday that were here when Smith sailed. In Hooperville the church was moved three times."

That may explain why Smith never explored the Choptank and Chester rivers on the Eastern Shore, a question that has long perplexed historians. "He could have easily never seen them," Bystrom suggested. "Islands extended all the way across their mouths. We realize more when we look at the charts and the maps, everything that is 2' deep now was dry land years ago."

This crew's sailors range in age from 24 to 32 with five women and seven men. Instead of period garments like blousey linen shirts and hand-sewn knickers, they wear quick-dry micro-fiber shorts. And they don't eat hard tack and jerked meat, they eat hummus, veggie wraps, and trail mix. They sleep on shore most nights in mummy sleeping bags and modern nylon tents by prearrangement at parks or wildlife refuges. The crew pull out the binoculars at the end of the day and look for signs of life on shore. In Maryland they carry a document from Gov Martin O'Malley much like King James would have given Smith. It instructs the citizens to allow safe harbor in any port they choose. England's Cross of St George flag waves on the mast of the shallop.

"We especially like when we see a Port-a-Jon," said William Ryall, a crew member from Great Britain. "If not we say, 'Can myself and 11 of my closest friends use your bathroom?"

On board they use a "Luggable Loo," a toilet seat that snaps onto a 5gal bucket. There is no privacy but everyone got over that the first few days of such close living. "You just look the other way and it's no big deal," Ryall said.

Two crew members rotate over who is responsible for selecting the menu for the week. They shop and prepare dinner, cooking on a two-burner Coleman stove.

Everyone got along from the get-go. Bystrom looked for a crew with amiable personalities who could get along easily with one another. Out of 100 applicants these 11 were chosen. The crew has never argued or

had a single confrontation, miraculous as it sounds, even living in such tight quarters. Women and men mix as one large family. Everyone gets along famously. "We have to," Hall said. "There's no other option. We have to put everything else away."

They lived together for one month before they ever went on board the shallop. Experts in fields such as ecology, history, botany, and anthropology came and taught them college level courses on everything related with the voyage so they could be better educators when meeting the public.

Most of the crew sail or row and have some kind of educational background. Half of what Bystrom and the crew does is deliver the shallop from Point A to Point B, to 23 pre-determined ports. Every weekend they visit a different town and city and participate in an event. Here they switch hats and become ambassadors for the Bay, sharing the story of their journey, what they discovered, and ultimately showing how everyone, from the Susquehanna River to Hampton Roads, is connected to this waterway and the future health of the planet.

"Farmers we met upriver," explained crew member Forrest Richards, "complained of getting penalized for fertilizer runoff. They think of the Bay as being so far away. But their viewpoint is caused by the lack of information and knowledge showing them the bigger picture."

The concept of connectiveness eludes many. One person in the District of Columbia asked the crew how they got from the Bay to Washington, DC. The crew is trying to change that.

"If we were to draw new political boundaries in our country, the watersheds as guides would make the most sense," Bystrom says. "The watersheds are what connect people. They are using them to identify themselves, what is important to them, the environment. It is a huge part of their quality of life, what is going on in their watershed. This map itself, Captain John Smith's and the new National Park Historic Trail, draws people together. And together we can save the Bay." They offer that message at each of their stops.

"We urge folks to take a personal interest in the Bay," Richards explained. "They can learn to do small things like not flushing the toilet as often, not fertilizing their lawns. When faced with an enormous task people get overwhelmed. Yet there must be a massive change. Now politically, when the government recognizes a national historic trail, Congress knows it is significant to the national patchwork. The most important thing we can do is build public awareness. We want to create a sense of ownership to these people in these towns."

Austin said, "Coming from North Carolina I thought the Chesapeake was spoiled and ruined. This is how many people from outside of the region see it. There are some industrially degraded parts near the major shipping lanes where we saw the imprint of cities on the Bay. The Bay is badly hurt but there is still so much the Bay has to offer if we take care of it. This has been a very hopeful trip. The Nanticoke River, for example, is perhaps the best preserved river in the Bay. Its ecosystem is intact all the way to Seaford. I came from the mountains where for my whole life people have understood their connection to the land, to a place. The Chesapeake is a national treasure and it's in a million people's backyards.'

After the crew's initial short burst of energy this morning they have been sailing effortlessly for four hours. Around noon the wind dies to a dead lull. Bystrom examines his GPS to determine if the crew should be sailing or rowing and now it is rowing. "SWIM CALL!" someone yells. They need to cool off before they struggle and sweat with the big oars. The crew strip down to their suits and jump, dive, or flip off the rail into the Bay. Afterward their tan bodies glisten in the sun as their muscles once again take to the oars to finish their miles for the day. The shallop was built to sail though, and is much too heavy to row continuously for days and weeks on end. They can row 12 miles a day or sail for 10 to 30.

A 1,000-ton bulk container ship cruises by. It makes no wake but crew member Ashley Maloney said their scariest time so far was when they were cutting across a shipping lane and a freighter left an 8' high wall of water in its wake. "Three quarters of the stern popped out of the water," she recalled. "People were screaming but it was so fun!"

Ahead is Echo Hill Outdoor School. A few crew members attended their summer camp as youngsters and were even counselors there. It holds a fond place in many of their hearts.

Like most of the places the shallop has pulled into, either large planned events in cities with playing brass bands, governors, the press, etc., or unexpected ones like this, a large, supportive crowd is gathering. Children and counselors from every corner of the camp pack the beach and clap and cheer and wave to the approaching wooden boat. The crew and their captain turn and row the boat into shore. They beach it onto the sand and immediately begin answering questions, sharing stories and doing their most important job, being ambassadors of the Chesapeake Bay.

#### Web Sites

Those who are interested in learning about the John Smith shallop, the Captain John Smith National Historic Water Trail or other related topics, will want to visit these sites:

www.nps.govjcajo www.johnsmith400.org www.sultanaprojects.org www.friendsoftheiohnsmithtrail.org www.baygateways.net www.buoybay.org www.chesapeakebaytrust.org www.americas400thanniversary.org www.cbf.org/johnsmith

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Chesapeake Bay Program.

Cindy Ross lives in Pennsylvania and, unlike some children today, has a hard time coming indoors. She has written six books about it; her latest, from McGraw-Hill, is *Scraping Heaven: A Family's Journey Along the Continental Divide*. She fears she has inflicted her children with the same addiction to fun in the outdoors.)

Supportive crowds have greeted the shallop and its crew at each of its stops.





John Smith's two 1608 voyages of exploration of the Chesapeake are in the news this year as a shallop with a crew of a dozen intrepid men and women on a single voyage traces many of the courses sailed by Smith 399 years ago.

But what of this shallop? It is certainly a plausible craft of the period and would have elicited little comment were it to reappear in 17th century waters around England or Western Europe. But is this an accurate representation of Smith's small barge?

To put it bluntly though, we have no idea what the Jamestown expedition's original shallop looked like. And this is not for lack of many people trying.

This is not a trivial matter because the nature of the vessel and its performance sailing around the Chesapeake helps us to understand the evolution of sailing craft in this huge estuary. These small craft were the backbone and lifeline of this economy from the earliest colonial period until well into first decades of the 20th century.

A little more than a quarter century ago Burt Kummerow, then director at Historic St. Mary's City in Maryland, thought the time was right to start thinking about a recreation of the discovery barge Smith used on his voyage. After all, Chesapeake observers were soon to celebrate the 375th anniversary of that epic voyage. He and Ralph Eshelman, then director at the Calvert Marine Museum in Solomons, Maryland, assembled a group. They corralled a shipwright at the museum, George Surgent, and Al Lavish, a retired professional, along with a bevy of very expert hangers-on, including myself, and set about the task without grant support or wide regional acknowledgment.

Lavish and Surgent did the lions' share of the research into what literature was available. The clues found were many but pointed in several directions. There are numerous illustrations of small craft of that time, but none from the Chesapeake. The two colleagues went over much of the same ground and worked with the same basic assumptions that later researchers made about Smith's boat.

# Reconstruction of John Smith's Barge

An Endeavor in Uncharted Waters Past is Prologue

> By Dr. Kent Mountford Reprinted from the Chesapeake Bay Journal

The boat was brought over pre-built from England, likely aboard the Susan Constant, in some disassembled state. It appears to have been put together (ignoring an error in date in the account by first landing chronicler George Percy) in one or two days. It had a cargo capacity of "three tuns." This was a volume measure for the casks it could carry and had nothing to do with the weight of the boat. The barge had space, albeit cramped, for Smith and 14 men plus their gear at the start of the first voyage, and had at least 17 people aboard at one time on the second voyage. Smith's crew described a mast and sail (both singular) but early in the first voyage they lost a foremast, implying that there were a main mast and a foremast.

There is precedent for this. William A. Baker, in his 1966 book, Sloops and Shallops, shows examples from 1430 to the 17th century in which a small, likely portable foremast is rigged with a small square sail. In one of Baker's illustrations this sail is struck while going to windward and it would not be surprising if Smith had one of these. He would have carried it with the larger sail furled while running off before the squall that carried away his foremast. This is more likely than losing a mainmast well supported with permanent stays. In the 19th century this practice was echoed in small "stickup" foresails used on Chesapeake working watercraft, the pickup trucks of their time.

Smith's map published some years after the voyage does have a tiny illustration among fanciful fishes and ships of the period. The map has a little engraver's sketch of a

boat lying far up Chesapeake Bay near what is today Poole's Island that serves as the logo for "Past is Prologue." The boat is rounded at both ends and is shown with a single mast supported by two lines called shrouds on each side and with a single yard or spar to support a sail that is not shown.

The spar is an conundrum because if this is indeed Smith's barge it could represent, as it is shown, several possible sailing rigs, a square sail, a lug sail, a sprit sail, or a gunter rig. All but the square sail could carry a jib forward but that is not hinted at. The issue of a potential, portable second mast which could easily have been used when conditions warranted, remains unresolved. Such grasping at straws!

John Swain, the Chestertown, Maryland, shipwright working for the John Smith 400 Project, built a full-bodied boat, symmetrically rounded at both ends, with a single mast spritsail and jib rig. The boat was built in two separately floatable halves, bow and stern, which could be launched and rowed ashore for final assembly.

There is historical precedent for this. Capt Bartholemew Gosnold used a boat like this in his voyage farther northeast near what he named Cape Cod. Gosnold was subsequently one of the movers and shapers of the 1607 Jamestown venture and, aside from contributing his experience with a two-part shallop, would have had a good and stabilizing influence on the fledgling settlement. Unfortunately he died at Jamestown about three months into the project to everyone's great sadness.

Twenty-five years ago Surgent and the rest of us drew on records of Basque fishermen who, since the 1500s, had made whaling camps on Canada's Newfoundland Peninsula. Archaeologists at Red Bay, Labrador, have found knocked-down boats that were assembled on arrival for fishing the then fabulously rich Grand Banks off the peninsula.

Surgent, acting as naval architect and draftsman, said he started without any preconceptions and simply "designed a boat that...would do the job consistent with the

Left: The writer's sketch of what John Smith's shallop might have looked like.

**Below:** The *Explorer* was built at the Marina Museum in Deltaville, Virginia.





historical record." He and Lavish firmly believed they were close to the original. It was not a shallop but more like a large version of the dories Grand Banks fishermen would use into the 20th century. He designed a two-masted rig instead of a single square sail.

The single square mainsail was used in the 1990s aboard Silver Chalice, the shallop accompanying the larger ship Elizabeth II, which represents a vessel that served the Roanoke, North Carolina, colonists of the 1580s. The crew managed this rig well but did not like its handling characteristics and the Chalice later adopted a two-masted rig like the one Surgent and Lavish had proposed. The ship visits maritime events around the mid-Atlantic and I can report, from personal experience, that it is very pleasing to sail.

I did a pencil sketch of Surgent's boat that Kummerow offered a local artist, Peter Copeland, as the basis for a series of paintings. Neither my sketch nor the paintings got much press at the time and it was never built for lack of funds. Leroy "Pepper" Langley made a detailed scale model that is on display at the Calvert Marine Museum.

As John Smith mania built over the last several years three versions of the discovery barge were built and one, the *Explorer* at the Marine Museum in Deltaville, Virginia, was based, to their delight, using Surgent and Lavish's plans. The naval architect who oversaw the final design made only minor alterations.

For the uninitiated it's easiest to describe it as a dory hull with a flat (well, slightly rockered) bottom with hard chines or corners where the sides join the bottom. There is a sharp bow and at the stern a squared-off transom on which the rudder is hung outboard. Deltaville departed from Surgent's proposed two-masted spritsail rig in favor of Silver Chalice's single square sail which is carried on a single mast stepped through a thwart or rowing seat just ahead of the midships,

Ian Bystrom, captain of the John Smith shallop, said it usually takes six people rowing to keep the boat moving. Plying six oars, his shallop version makes two knots steady progress. He has 12 stalwarts aboard.

This June there were 11 aboard *Explorer*, eight of us who were very inexperienced at working together plying oars. We frequently crossed our 14' oars, failed to heed timing of the stroke oars, and three times I lost control of my sweep and it trailed in the water.

Skipper Steve Smith (also called Kaptain Krunch) said that trailing oars like this would have earlier snapped the thole pins off the rails like matches. Thole pins are the fulcrums against which the rower pulls, the grip of the oar being pulled toward the bow by oarsmen facing aft and the submerged blades sweeping toward the stern to propel the boat forward. The new, strong locks put in to support this action are solid and secured with iron drifts into the wood. The oars may bend noticeably but do not break. Each sweep is weighted at the pulling end with a lead casting inside to counterbalance the long looms (the part of an oar between the handle and the blade).

We pulled a couple of miles during our day with *Explorer*. At first our sloppy rowing managed 3.2-3.3kts, but once we got our act together (with historian Ed Haile at the helm) we reeled off 3.7 and, for a time, 4.0kts, the equivalent of a brisk walk at 4.6mph.

This was the first time *Explorer* had set her large square mainsail. It has no reefs to reduce sail area in heavy winds. This is historically accurate but it would have been a hassle to change to the smaller sail they had ready and lose all that time in a fair breeze. Seventeenth century square riggers often had a bonnet, an additional horizontal panel of sail, that could be laced to the main, giving it some flexibility.

With a little wind, *Explorer* moves along under sail at 3.2-3.4kts (near 4mph), her hull being quite easily driven as we'd found under oars. While at the tiller I brought the ship round, attempting to go to windward, but it would not answer the helm and slid sideways more and more.

Off the wind it is nicely maneuverable and I had no trouble making sharp turns negotiating the channel to Deltaville inside Stingray Point. Smith then negotiated the hairpin turns up a narrow channel on the faintest breath of air to the Marine Museum without the need to ply a single oar.

Still, after seeing the John Smith shallop and sailing both the Maryland *Dove's* boat, *Parrot*, and *Silver Chalice*, I think that *Explorer* needs to have leeboards added. Leeboards are big boards that are hung off the lee side of a boat, the side away from the wind, to keep it from sliding sideways when the wind is blowing from forward of amidships and the boat was trying to sail somewhere in the direction from which the wind blew.

Leeboards are an old invention, possibly from the Netherlands where shallow waters abound, although there are some who state that they date from pre-history. Baker's book contains a 17th century illustration of a sailing vessel resting ashore with leeboards which he suggests were common on boats until the 1700s, although there is no evidence for their use in the Chesapeake.

Leeboards, as evidenced by their modern reconstructions, are extremely low tech, simple to rig, and make a significant difference sailing to weather.

Bystrom said that even with its big leeboards the John Smith shallop is a poor performer to windward in light airs, but when it blows 15-18kts (about 20mph) it powers its way through the chop and makes real progress, although the crew has to keep bailing the water that is continually thrown over the boat's bluff bows and into the bilges.

The *Explorer's* oars under sail are carried fore and aft on either side of the mast and form a rough decking on which its crew can walk. It is very cumbersome to get the oars outboard quickly when there is a need to row, though. When it's likely oars will be needed quickly they are carried resting on the boat's gunwales and stretching from one side to the other, the butts against the opposite bulwark and the blades jutting out 3'-4' port and starboard. They are then easy to get in action. The John Smith shallop follows the same practice.

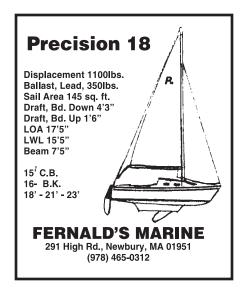
While Smith seemed to run the boat with long oar strokes, Bystrom, at least in a chop, argues for short strokes that keep the boat moving where waves that close together would almost stop it between strokes. His crew pauses slightly before each stroke, then they all "jerk" the oars simultaneously and recover for the next stroke.

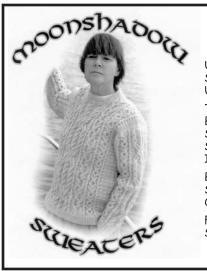
It's interesting that one of the most common plankton organisms, the shrimplike copepod, swims the same way, in rapid bursts. Scientist Rudy Strickler determined years ago that this was the most efficient way for them to conserve their energy.

As in all these experiences, the crews and vessels are works in progress and living experiments about handling vessels that might have been workaday 400 years ago.

Most of the *Explorer's* crew returned to Deltaville that night, just inside Stingray Point, where we barbecued a cownose ray, which is likely the fish that almost fatally stung Smith when he was there 399 years ago.

(Dr Kent Mountford is an environmental historian and estuarine ecologist.)







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www.sv-moonshadow.com sweaters@sv-moonshadow.com I have always enjoyed reading Robert McCloskey's books about the Maine coast to my four kids, as well as Holling Clancy Holling's classic *Paddle to the Sea* among many others. I just became a double grandfather and thought how nice it would be if I could add a personal note to those seafaring, coastal, boaty books. I already visualize myself looking into those wide-open, dreamy eyes of my young audience and, while gently closing each book, hear myself quietly adding, "You know, I have been there, too, in a tiny little boat just like this one here."

#### **Down the Mighty St Lawrence**

As far as the mighty St Lawrence River is concerned, there were actually two very good reasons for me to finally tackle the 350 miles from the last of the Great Lakes (Lake Ontario) to Quebec City:

1. This stretch had eluded me in 1999 on my journey from Lake Champlain around the Gaspe Peninsula back to New Brunswick and the Baie de Chaleur. I felt I had to do this upper stretch of the St Lawrence so I could finally say I had paddled the entire river from the Great Lakes to the sea, as in the children's book mentioned above.

2. But the real reason for doing the trip this year, in May 2007, was the fact that the city of Quebec was getting ready to celebrate its 400th birthday. In 1608 Samuel de Champlain had built a very modest settlement on Cap Diamand (Cape Diamond) where today's downtown, Le Citadelle and the famous hotel, the Chateau Frontenac, are located. May would also be a good time to be on that big river, I thought. I would beat the boat traffic and tourists in the Thousand Island segment, as well as the black fly and mosquito season, and find plenty of water to flush me downstream towards my goal.

#### Paddle to the Sea, Then and Now

From my 1999 trip I knew that the St Lawrence was huge and intricate to navigate and that it was a major shipping route for large container ships and equally huge Great Lakes bulk carriers throwing significant wakes. But the major obstacles for a small boat like mine were the seven big locks which would not allow any "motorless boat smaller than 20', weighing less than 900 kilos" into the locks. I could not believe the info web sites of the St Lawrence Seaway but numerous e-mails as

#### Paddle to the Sea Celebrating Quebec's 400th Birthday

By Reinhard Zollitsch

well as phone calls confirmed my suspicion, they really meant it, no exception, "Non!!!" And that after my previous wonderful experiences in the Champlain, Canso Strait, and Chambly canals, most of which were very accommodating and courteous to small boaters and did not even cost me a penny.

Did that mean one could not "paddle to the sea" any more in traditional man-powered crafts like a canoe or sea kayak and that on the "Canada River," as the St Lawrence was known for a long time, in a craft synonymous with Canada, a canoe, a "Canadian," as this type of boat is known world wide? I was shocked. That could not be! "Non!!!" I know from my home state, Maine, for example, that when a power plant dams a river they are responsible for supplying a portage trail or even a car shuttle around their man-made structure. The St Lawrence Seaway people, on the other hand, sounded annoyed when I pressed the point, downright hostile, except for one person at the US office at the Eisenhower/Snell Locks.

I desperately needed a Plan B or even a Plan C to pull off my trip because I was going to paddle to the sea, no matter what, especially when I get challenged. So before I left on my trip I had arranged various ways to get through or around those big 233.5m x 24.4m (766' x 80') large "boxes" that could lower big 25,000 metric ton freighters down about 10m (30') each time in 7-10 minutes. (How do you like all those numbers?) Planning this was definitely the hardest and most frustrating part of my entire trip but it was necessary to guarantee a smooth, hassle-free trip and in the end was worth my effort.

So, if anybody else is planning to go down the upper St Lawrence River, don't leave home unless you have a definite plan of action. Portaging boat and gear through big cities or towns is no option since you will lose at least half of your gear to eager "takers," it has happened to several paddlers (who should have known better) who then complained about it in their articles or books.

Put-in at Tibbett's Light on the edge of Lake Ontario.



The Trip Begins

May 16, 2007, was approaching, everything was as set as possible, and I even had arranged for a ride to St Vincent, New York (600 miles from Orono, Maine) and a pick-up in Quebec City (250 miles from Orono, Maine) for May 31. Thank you, merci, danke, Nancy. You are wonderful!

In the early morning of May 18 I put in at the Tibbett's Point Lighthouse at the very tip of Cape Vincent, New York. The shore was rocky, not ideal for loading a boat, and a strong headwind greeted me as soon as I pushed off. I was only disappointed that I had misplaced my stopwatch since I still navigate by dead reckoning. So my wristwatch would have to do.

I had set myself up with a daily goal of 25 miles which would mean I would get to Quebec in 14 days or two weeks exactly, 1pm, to be specific. "Why don't you get us a nice room for the night before we drive home the next day," I had told Nancy, and she did, and wait until you hear what she got us.

I had ordered a full set of 18"x24" nautical charts (less expensive black-and-white reprints of the standard NOAA charts from a chart supplier in Bellingham, Washington) which fit my chart case beautifully and proved to be absolutely necessary for the St Lawrence, which is a truly big river, choked with islands and rocky shoals and multiple channels. I was comparing notes with another paddler planning to go down parts of the St Lawrence a few weeks later. She planned to use a colorful fishing map (good luck)!

My course for almost the entire trip was northeast, 45° true, or about 60° magnetic on my compass. I had planned to follow the New York shore until about Massena/ Cornwall, where I would enter Canadian waters. As instructed in Cape Vincent, New York, I would call a certain Canadian immigration phone number from the first Canadian marina I saw to legally enter Canada. The current was slight to negligible and did not seem to compensate me for the steady north to northeast headwinds that blew until, and including, my last day on the water. That day I had to wait for three hours for the wind to drop from 45 knots to a barely manageable 15-25.

#### Following The South Shore The American Side

The first two days took me through the Thousand Islands area, scenically a very pretty and promising area for weekend boaters. But New York residents found this vacationland a long time ago and have bought up every last foot of shoreline, including all islands

Headed NE right into the wind.





International Bridge across the American Narrows, 1,000 Islands.

and rocks, and have built summer homes, estates, even castles, on them, as on Heart Island. It reminded me of the shoreline of Connecticut, Rhode Island, and Massachusetts on my 2005 canoe trip back from New York City to Boston. I do not appreciate or admire that type of developed shoreline and just kept on paddling. I pitched my little tent in the most out of the way corner of two just opening state parks and was not even noticed, except by some Canada geese which were already trailing their fluffy yellow offspring behind.

Weatherwise the first two nights were extremely cold, setting record lows for the dates, in the 30s. (On our drive to the put-in we even encountered a snowstorm in the Lake Placid area on May 17). Later in my trip, the temperatures reached record highs in the 90s. Fortunately I am used to weather extremes and do not let them affect my trip.

At Morristown the vacationland aura abruptly stopped and was replaced with old dilapidated remnants of the industrial period, old piers and factories and tenement buildings. The current also suddenly picked up on the stretch to the Iroquois Dam and lock, so did the headwind, and I suddenly felt very cold and lonely. I took shelter on Toussaint Island, had some hot chocolate, and left negotiating the dam for the next day.

#### Running the Flood Gate in a Dam

My charts told me that small boaters could run the control dam through gate #28 downstream or through gate #30 upstream. I could hardly believe that. I googled this place through "MapQuest" and got a great aerial view of the dam. I counted the gates and yes, #28 was the fifth gate from the left and had a clearance of about 8' (I had to take their word for it). The third gate from the left was gate #30, the upstream gate. But how much of a drop was there? How violently would it flow? It couldn't be more than 7-8kts because if it was, no small pleasure craft or fishing boat would make it upstream. That thought convinced me that I could do it, too, just stay in the middle and be ready for a low brace, I told myself. I tried to hail the lockmaster on my VHF ra-



1,000 Island "home".

dio to inform him about my plan but he must have "stepped out for a moment".

And I felt great doing it all on my own, approaching slowly, carefully, looking through the gates to see how much the water level would drop. Then I saw a fishing boat below the dam, almost on my level, and I went for it, and it was a cinch. And just think, no portage, no locks, no fuss, my kind of dam. I then figured that the dam was only here to guarantee water in the dry season later in the year when the upstream Galop Island rapids would run dry if water wasn't held back. This time of year the river was flowing through the dam almost unimpeded. I then wondered whether the big boats would still have to be locked through or could also steam through the locks, ever so slowly, without stopping, but I doubted it.

#### **Trouble in the Locks**

The following day took me to the next big obstacle, the US Eisenhower/Snell locks. I had planned to check out the spillway dam a tad north of the canal in Robert Moses State Park to see whether I could portage it and take care of the two locks with one "short" carry to the road across the dam and then slide my loaded boat down a long but gradual grassy slope back into the river. Well, the take-out was through trees and over a rock bank, but worst of all the down slope was endless, dropping almost 150', terminating in a steep drop over huge boulders, an ankle breaker. I tried the marina on the other side for help, but, "Sorry, we are closed." I got back in my boat and decided to pitch my tent in a spot I had seen on the way up to this spillway dam and think about it some more. I also needed food.

I had to try Plan C the next day; i.e., paddle to the locks and remind them that I had gotten a verbal OK from their head office to raft up with another pleasure craft so that I would be allowed in the locks. The crews were very reluctant to let me in, even tied up alongside a sailboat whose home port happened to be Lubeck, Germany, a few miles away from where I had grown up. Thanks, Andreas and Sabine! They were extremely helpful but not so the lock staff. They ordered me out of my boat onto the sailboat and to stay there till we were through both locks.

Between the two locks a service tugboat was shadowing us and then decided to pass us at full speed on our port side where my boat was rafted up. What was the skipper thinking? There was no emergency he had to attend to. He was just having fun harassing us, hoping to see my boat fill with water, roll over, and bang against the side of the sailboat. He was obviously out to prove his point that small motorless boats do not belong in the shipping locks and canal. I was upset, to put it mildly, but saw it coming in time and felt challenged to thwart his aggression and have the last laugh. I quickly adjusted my stern line and hand-held the bow line of my boat so I could coax and manhandle my boat over the huge wake and keep it from slamming against the sailboat.

It was most despicable and unseamanlike behavior on the part of the tugboat skipper, obvious chicanery. But I just smiled back at him like a Cheshire cat, our boats were that close, since I knew I could handle the situation with my type of boat and win the contest. I could have yelled, reminding him that power boats are responsible for their wakes, but I was just glad to get out of there. It took an endless four hours and 15 minutes for me to get through the two locks (a total of three-and-a-half miles). They were the most unhelpful staff and crew I have ever met on any seaway anywhere, and I used to work on freighters in Europe. By the way, the sailboat and I each had to pay \$60 for the two locks, which both of us considered highway robbery, especially considering the treatment we got. Shame on you guys!

I then had to put my head down to get to my 25-mile marker for the day, which I eventually did. By then it was 5pm and I had to stop anyway and call Nancy via satellite phone, our pre-determined contact time. The small beach and bath towel sized grassy patch behind it on Clarke Island suddenly looked like an inviting overnight spot, and I stayed.

## Crossing Lake St Francis to Beauharnols, Canada

Every day is full of new challenges and the next one was no exception. First there was big Lac St Francois (St Francis Lake) which I had to cross, it took me two hours. In the early afternoon I arrived at the marina in Salaberry-de-Valleyfield, just before the next two locks and huge dams in French-speaking Quebec province. When I phoned



Iroquois control dam, 5th gate from left down, 3rd one upstream.



Entering Eisenhower/Snell Locks.

the Beauharnois Locks before the start of my trip their response was a very uncompromising and emphatic one-word answer, "Non!!!" That was clear enough and ended our conversation, even though I had worked out and mouthed a number of great sentences in my best high school French ahead of time.

Faced with that attitude, I moved right on to Plan B. I contacted the closest marina at Salaberry-de-Valleyfield and met a very accommodating harbormaster. He assured me he would car-shuttle me around the locks from his place to the nearest ramp below the dams/ locks, no problem. Thanks for your positive and helpful attitude, Michel. You are a gem.

After my mandatory call to the Canadian immigration office to check into the country legally, I transferred my gear to the trunk of his little Honda, put the boat on a couple of life jackets on top of his roof, and tied down the entire shebang to the car roof through the open door frames with a couple of docking lines he



Projectiles at my Beauharnois overnight.

Davide's cheerful crew jet-boating me

through "Big John".

came up with. It worked, and I arrived at the ramp in Beauharnois at 5pm, time to call home and also time to stay for the night.

A big power boat on a trailer at that public boat launch provided some visual shelter from nosy officials, and I stayed. However, while I was dozing off in the early evening hours a band of young male teenagers cruised by, talking, shouting and cussing loudly in French. They returned a bit later, while I had already entered dreamland, and threw an 18" 2"x4", then a car mudguard, and finally a hefty brick-sized rock on top of my tent. Each time it sounded like an explosion and I did not know what had happened. I finally came to and figured things out when the big rock hit my tent rain fly, and I scared them away with a loud bear growl.

Fortunately my shock corded tent had shrugged off the bombardment but I was deeply hurt that young kids would do something like that to a total stranger in need of sleep, and that on his 43rd wedding anniversary. (I later noticed one tent rib was split and there were two small holes in the back of the tent. Duct tape took care of it.) The same thing happened to me again the next night in Longueuil, just on the other side of Montreal. Another big rock landed on my tent and my paddles inside. It was definitely time for me to get out of populated areas.

#### Lake St Louis and the **Lachine Rapids in Montreal**

Sunrise next morning saw me back in my saddle again, traversing big Lac St Louis towards Montreal and the infamous Lachine Rapids. Just as I was about to cross over to Isle Doral and the entrance to the old Lachine canal, my sailing friends from Lubeck crossed my bow, about to enter the Canal de la Rive Sud, the big ship's canal, but I doubt whether they saw me since they could not possibly have expected me there.

I then noticed the increased pull of the beginning of the rapids and made sure I made it across in good time. These were the rapids that all early explorers like Cartier and Champlain encountered, thinking that China would be on the other side of this "Northwest Passage," the "Canada River" (therefore the name "China Rapids"). Early seafaring explorers were obsessed with the search for a seaway from Europe to the Orient. Even Henry Hudson thought he had found the passage when he sailed up the tidal Hudson River in 1609, until he got to the rock ledges north of today's Troy, New York. Columbus, as we all know, did not even know there was an extra (American) continent between his 1492 landing spot in the "West Indies" and the "land of riches," the Orient.

The "growth" of the American continent from nothing to a very thin affair (the size of Florida) and eventually to a significant continent in the days of the Lewis and Clark expedition from the Mississippi to the Pacific in 1804-06, had always fascinated me and I absolutely had to see and hopefully even be on these historic "Lachine Rapids." But how? Who is out on those rapids? Only big rafts or jet boats could handle them.

That was it. I googled the problem and found two jet boat outfitters who run the rap-

Yee-hah! Hitting "Big John".





City haze over Montreal.

ids. I chose the company at the head of the big rapids rather than the one which starts its trips from the Old Port in downtown Montreal. And again, I got a most encouraging and helpful e-mail back from the owner, Davide. Thanks, my man! I carefully drifted down under the first two bridges to his place on Lasalle Blvd and 75th Ave, just under the first high tension wire crossing the river, and there he was, about to have lunch with his eager group of young raft guides.

He gave me a quick tour of the big drop, "Big John," named after "Big John Le Canadien," a Mohawk native from nearby Kahnawake who used to guide steamships down the rapids quite some years ago. The drop is right in the middle of the stretch between Lasalle proper and Heron Island. This is also the place where the canoeists Louis and his native guide drowned during one of Champlain's earlier visits. I tried to block out that last tidbit of information while looking for a sneak way along shore to get down this stretch, but I could not find any safe way because of the power station water intake there, and opted for a swift piggyback on the jet boat.

And the drop was BIG, REAL BIG, as the jet boat slammed into a train of humongous standing waves, getting us all wet and bouncing my loaded boat, which we had put on top of the backrests of the empty passenger seats, on life jackets to soften the bounce. The Keviar expedition layup of my boat came in handy, also when we tried to ease it back into the water below the last ledge drop. "C'est ca!" Davide pronounced. "This is it, you can handle it from here on." Unloading a full boat over the side in the middle of a river, making sure the boat does not get sucked back into the rapids, is not as easy as sliding it on top of the railings from a steady dock. Suffice it to say we managed to angle the boat back into the St Lawrence and me into the boat and I was off again, with a big smile and a big thank you.

The whole operation was done in no time. I found myself in the middle of the river, or better "Le Basin," the basin, eager to hold on to the left shore again which I had studied on my nautical charts. I had to go to the left of Isle Des Soeurs under the Champlain bridge in order to avoid the big "ice control structure" across the wider right river arm and eventually go under the Victoria bridge and taCity haze over Montreal.he current picked up noticeably, my chart indicated 6kts, and rapids with rocky drops. But I was sharp and in a great "good aggressive" mood and felt I had to prove Davide right.



Big Lac St. Pierre.

I made it fine through the ledge drops but only half-heartedly tried to swing into the Old Port to see more of the downtown city. But the current blew me by it and I smiled as I went with the flow under the Cartier bridge and along Isle Saint Helene with its huge amusement park with giant roller coaster. At the tip of the last island I crossed over to the right shore, including the entrance to the Canal de la Rive Sud, to the Cap-sur-Mer in Longueuil. The same big freighter came out of the locks that I had seen enter the canal when I crossed over to Lachine. I did not give it much thought, though, I needed a break.

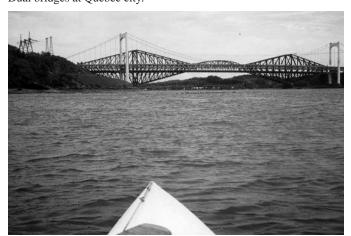
Then I noticed with a smile that I had already paddled my 25 miles for the day and it was only 2pm. I found a nice black sandy/gravelly beach to pitch my tent on and I enjoyed the afternoon with coffee and cocoa much more than the previous two.

I had just moved into my tent to settle things there when I noticed my sailing friends from Lubeck exit the canal. Not until then did it dawn on me that I had paddled through and around Lachine Rapids one hour faster than a boat can go around them through the canal and two locks. What an amazing thought. And no more locks and dams from here to Quebec! I felt buoyed. However, that evening I (in my little tent) was bombarded with yet

Trois Riviere bridge.



Dual bridges at Quebec city.





Take-out at Levis, Quebec.



View from my "humble abode" where Champlain's fort once stood.

another brick sized rock, how nasty and totally uncalled for.

#### **Back on the River Again**

Up again at 6am and off by 7:30am, back on 60 magnetic, more big islands in the middle of the river, and many arms to choose from. I had lunch at the big cathedral in the little town of Varennes, visible for miles in its shiny metallic glory. Many of the larger islands must have been used for communal grazing or haying and often still indicate that use by name (isle de la commune). I, in turn, enjoyed the graininess of my one piece of 12-grain bread, the crunch of my carrot, and the fruity sweetness of my small dish of Mott's applesauce, my typical lunch.

I then took a channel behind a long string of islands off the small town of Contrecoeur, hoping to find a small grassy spot for my tent. However, all islands were a pristine wildlife preserve, so beautiful that I could not bring myself to sully the vista, not even with my little minimal tent. I eventually found a small spot near shore on the town side where I was not noticed. I had paddled the 27 miles in six hours and 45 minutes, a typical day.

How wonderful, I thought to myself, picturing me living here in this little town. Their view to the river was absolutely "clean," there was not a single house or shed or man-made structure in sight, just wonderful, original, untouched nature. How unlike the "pretty," touristy, Thousand Island

stretch, choked with vacation homes, motels, etc. How forethoughted the city fathers (and mothers) must have been to not allow anybody to buy up the islands and "develop" them. Congratulations! What a modern, ecological thing to do. You were so much ahead of your times. I am impressed.

As I wrote those thoughts down in my trip log, a powerful thunderstorm went by with a fierce windstorm, blinding lightning and instant, earsplitting thunder, that was close!

#### Closing the Gap

Next day would be significant since I would cross my path from my 1999 trip near Sorel. This time, though, I had planned to paddle along the north shore all the way to Quebec (instead of the south shore). I would follow a thin river arm around the nightmarish jumble of islands between Sorel and 20-mile long (and nine-mile wide) Lac St Pierre towards Berthierville and the last island, Isle a l'Aigle, Eagle Island.

It was a very convenient stop, a tad muddy and wet underfoot, but a great jump-off spot for next day's long hop across the lake towards Trois Rivieres. I started an hour earlier to take advantage of the calmer morning hours and to avoid the rains predicted for the early afternoon. I had barely put up my tent in my designated spot at the mouth of the Sable River when the rain

started. That was OK by me. I was on a wide sand beach under a tall poplar tree, enjoying my coffee as well as some fun reading and writing my trip log. Tomorrow looked easy, back on the river towards Quebec.

#### The Home Stretch

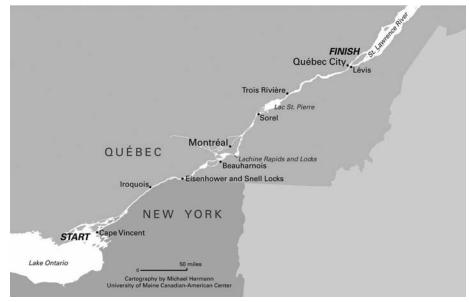
But the wind was howling when I packed my gear in the morning and my corner of the lake was filled with whitecaps and streamers, sporting a good set of surf waves on my beach. It meant I had to set up and time things right if I did not want to get swamped before I could close the spray skirt and get into deeper water. I got slapped occasionally by a wave top but my Gore-Tex jacket kept me dry; i.e., warm in my own sweaty mist. The wind came over my right quarter (SSW, 15-25), and I was glad I had a good rudder to help me out with my paddling.

At the St Maurice River at Trois Rivieres I pulled out for half an hour to let the front pass through, a wall of black clouds with corkscrews hanging from its forward edge. But the river got big again, three miles across, and the SSW wind had a very long fetch. I was working hard to stay upright and dry. I finally pulled out behind the breakwater of the small town of Champlain where I found a tiny spot of sand above high tide mark, but the tides were still minimal that far up the river. I felt I had to stop here, being a



Champlain getting make-over for the big party. Home at last





real fan of Samuel, but also because it was easy for me to reach shore. From here to Quebec both shores shoal significantly with hard rock flats ("battures") rather than the usual sand banks or mud flats.

I went into town and asked several people about the significance of the town's name. What did Samuel de Champlain do here and on what trip was it? Nobody knew any history, not even the church plaza gave away the secret of the town's name. It must have been just a good name that no other town had claimed. Champlain certainly went by here in 1609 on his way to the Richelieu River (the Iroquois River, as it was known then) and Lake Champlain. He also passed by here a few years later on his way to Hochelaga/ Montreal on the Lachine Rapids from where his quest to find the Great Lakes continued up the Ottawa River. (Champlain saw Georgian Bay, the northeastern part of Lake Huron, and Lake Ontario for sure).

Two more stops for me: Saint Charles-Des-Grondines, where I first noticed Saint the significant tides on the St Lawrence; and Neuville. I had set up for the night in Grondines, when at 8pm the tide came up to my doorstep and looked as if it would visit me in my tent. And since I could not move back or to a higher place at that spot, I quickly broke camp and paddled down to the town's breakwater where I found some level grass in one corner and some rest one hour later. Thanks, I needed that.

Neuville was my last stop on the river. It was a very gray, dank, and foggy day, 25 miles down the swift Richelieu Rips, around a rare 90° bend in the river at the steep, bluish black slate shores of Pointe-de-Platon, and on past Donnacona to the small town of Neuville. I again pulled out near the breakwater, to make sure I would not be stranded by the now significant tides in the morning. I was tucked away behind some empty boat trailers, which began to whistle and howl as the wind picked up. It rose to 45 knots and kept up all night. I was sure the morning would be better since it was going to be my last day on the river and Nancy was on her way from Orono, Maine, to pick me up at the Quebec-Levis ferry terminal at 1pm. The weather channel predicted NE 10, but not 45 knots, and I still had 21 more miles to paddle. So it had to get better.

#### A Stormy Last Day on the River

I dutifully packed up, hoping the wind would suddenly abate and allow me to be on my way. I was very skeptical, though, since I could clearly see what happens when a strong wind runs counter to the tidal flow. The river was white, big waves were breaking everywhere, and the tops were even being blown off. It looked fierce but I stuck my bow around the breakwater, only to duck back into the marina harbor. It was impossible to make headway and it was downright dangerous. No time to be out there.

So I pulled out at the boat ramp and waited one hour, then two, and even three hours. Between hitching my boat back towards the receding water, I warmed up in the clubhouse with a cup of hot coffee. Thanks, Raphael! I also was able to leave Nancy a message saying I would be majorly delayed, two to three hours.

At 10:30am the wind had abated somewhat to around 15-25 knots and I was off, with grim determination and under full racing power. I felt I had to make it to our rendezvous before nightfall. I had one ten minute lunch break and covered the 21 miles in exactly five hours. I was spent but feeling immensely accomplished that I had made it to Levis/Quebec at all and was extremely happy to see Nancy at the right place and cheerful as ever. What a girl! Thanks, my dear, and tell me, where are we staying for the night? I needed a soft and level bed after today and the past 14 nights camped along the banks of the mighty St Lawrence,

Without saying anything she turned around, pointing to the biggest and most splendiferous hotel of Quebec, sitting right on top of Champlain's first fort and settlement of 1608, the Chateau Frontenac. How appropriate, how wonderful, and since I had not spent a cent for 14 overnights on my entire trip, how affordable to spend it all in one lovely night on the seventh floor, looking out over the copper-sheathed rooftops and down onto the mighty river on which I had just come for 350 miles to celebrate the city's 400th birthday.

#### Celebrating Quebec's 400th Birthday in the Chateau Frontenac

lovely dinner in-house with an appropriately named glass of beer (La Fin Du Monde, The End of the World) completed the evening. I fell into bed and drifted off into lala-land in no time. The last images I remembered were facets of my 1999-2003 trips in my little boat, drifting on towards the Gaspe, through the Gulf of St Lawrence, around New Brunswick and Prince Edward Island, and eventually through the Strait of Canso into the open Atlantic, just as the little wooden boat had done in the book Paddle to the Sea. I now had done it, too.

What a trip, what a river, what an adventure! I enjoyed myself immensely, even at age 68. And I was delighted to see Quebec gearing up for the big event, the big 400-year birthday party in 2008, the boardwalk was being repaired and even the huge statue of Champlain was being cleaned up and refurbished for the big occasion.

#### Salut to Samuel de Champlain

... and the hardy first 28 settlers of 1608, of whom only eight survived the first harsh winter, I am sorry to say. But this is the cradle of today's 18 million North Americans of French descent.

#### Salut to the City of Quebec and Its **Deeply Rooted French Culture and** Language

#### And Salut to the Mighty St Lawrence, the Canada River

#### Info

For author's bio and previous trip reports see: http://www.zollitschcanoeadventures.com

Boat and Gear: Covered 17'2" Kruger Sea Wind sea canoe with rudder and spray skirt, see http://www.krugercanoes.com

Lensatic radar reflector from West Marine and bicycle wiggle stick (both to enhance visibility

Camping gear and all food for 14 days; two 2.5gal water containers

NOAA charts for the entire river, 18"x24" black-and-white copies from Bellingham Chart Printers Division, Tides End Ltd: http://www.tidesend.com

Road maps and aerial views of specific areas: http://www.mapque.com

St Lawrence Seaway info: http://www. greatlakes-seaway.com

NY State Parks (1000 Islands) info: http://www.nysparks.state.ny.us/regions/

Jet Boat rides on the Lachine Rapids: http://www.RaftingMontreal.com (Les De-

scentes sur le St Laurent); (ask for Davide) H.P. Biggar (ed): The Works of Samuel de Champlain, Vol 1, Toronto, 1922

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#### The International Scene

Plans are afoot to increase the capacity of Europe's largest and busiest artificial seaway, the Kiel Canal. The Canal offers a short cut from the Baltic Sea to the North Sea, its 98km length shaves off, on average, 280 nautical miles. For a handy size ship a 12-hour time saving and associated fuel costs mean an overall voyage cost reduction of about \$20,000.

Egyptian fraudsters have added safety products to the list of non-existent Suez Canal services for which they invoice ships. An owner received fake invoices for "Motorboat for safety" along with billings for nonexistent waste disposal and stores provision.

Superyachts now on order will need 5,000 crew members and, because of impending new working hours regulations, that figure could rise to 8,000. And there are attractions for qualified personnel. "It is not unusual for the captain of the megayacht to be paid in excess of \$300,000 a year," one expert said. "That sort of figure will clearly attract the cream of the maritime industry and these private owners operate a 'money no object' policy to ensure they get the best crew.' Another expert added, "When you consider a fully trained ship's engineer is being offered \$300,000 to work on a Russian oligarch's megayacht between the Mediterranean and the Caribbean while he would crew on a bulker between Brazil and Australia for a fraction of the wage, there is little doubt where he will choose to work."

Lost containers usually sink but many do float for some time, 57 days on average, and they present a serious threat to vessels. Between 2,000 and 10,000 containers go adrift each year.

#### Thin Places and Hard Knocks

Ships ran aground last month: The containership Maersk Diadema tried to enter "the dock of turn" of the Balsas River to berth at the container wharf at Lazaro Cardenas, Mexico, but suddenly turned aside and went aground about 600 metres to the east of the ship channel. Port authorities tried to suppress the news for several hours while three tugs tried to free the ship.

News was similarly suppressed, this time by the owners, about the grounding of the chartered container ship Maersk Neuchatel outside Tema in Africa.

In the Darwin Channel, which bypasses the need to go around Cape Horn, the Greek owned Ocean Crown ran aground while carrying 40,000 tonnes of copper concentrates and was holed. Lightening of cargo off the ship was the next step.

In Dublin a pilot was placed on administrative leave after the Swedish asphalt carrying tanker Pandion ran aground on soft sand. It soon freed itself.

Off India's western coast, the Chinese bulker Cheng Lee Men started listing after heavy rains wet its cargo of 16,100 tonnes of iron ore fines and the resulting slurry flowed to one side. The ship was deliberately grounded.

Ships collided: The South Korean vessel Keoyoung Chemi carrying chemicals ran down and sank the Chinese fishing boat Zhe Dong Yu 7302 off the coast of Wenzhou and ten vessels searched for survivors, Only one was found.

Within sight of the Rock of Gibraltar the bulker New Flame and the tanker Torm Gertrude collided. The tanker was relatively unharmed but the bow on the bulker flooded and

## Beyond the Horizon

By Hugh Ware

sank to the sea bottom while the stern section floated. The bulker's master was charged with conduct likely to endanger shipping. A long salvage operation ensued and matters were not helped, at least in the opinion of Gibraltar authorities, when the Spaniards requested the presence of the European Maritime Safety Agency's first oil spill response vessel. The Gibraltar government said the vessel is lying in Gibraltar waters and that local authorities already had sufficient capacity on site to cope with any spill. (The British overseas territory and Spain do not get along, especially on maritime matters.)

Somewhat further north French officials said there was a "strong possibility" that the Turkish cargo ship Ocean Jasper hit and sank the French fishing vessel Sokalique and then tried to flee the scene.

Off Darica, Turkey, the cargo ship Turgot sank after a collision with the container ship Zinnet Mete. One man went missing.

Other bad things happened: Off Cape Town the crew of the elderly cargo vessel Amul abandoned ship when water started entering the stern and power was lost. The giant salvage tug Smit Amandla soon got a line on the ship and held it off the coast while decisions were made. The ship, loaded with scrap metal, was being delivered to Indian scrappers.

In the same part of the world the anchor handling Doula Tide capsized and sank. Most of its crew was rescued with nine being lucky enough to find themselves aboard Paul Allen's (co-founder of Microsoft) luxury megayacht Octopus. At 413' long, Octopus is currently the largest US megayacht and the world's fifth largest. Allen also owns US megayachts #3 and #14. By the way, a doula is a companion to a woman in labor and supplies emotional support.

In the South China Sea the elderly (34 years old) small cargo ship Pailin Maritime suffered severe hull cracking and sank so two British flag merchantmen came to the rescue. First to arrive was the container ship Maersk Kendall, on its maiden voyage, and it was soon joined by the car carrier CSAV Rio *Imperial*. Nineteen survivors were picked up.

In Houston fumes from bunker fuel were blamed for gas poisoning of 38 ship and shore workers on the Maersk Buffalo. Thirteen were taken to hospitals while others were treated on scene for vomiting and dizziness.

In Dublin the third officer on the ro-ro Dublin Viking was seriously injured and later died in a hospital while a second man suffered a dislocated shoulder. An inspector from the International Transport Federation was denied further access to the ship after making a preliminary visit with the dead man's parents.

#### **Gray Fleets**

The head of Russia's major submarine building shipyard resigned because of slippage in repair and modernization schedules.

Aircraft have been taking off and landing on Russia's only aircraft carrier, Admiral Kuznetsov, after a pause of two years.

One of the Irish Navy's eight major warships, the offshore patrol vessel LE Aoiffe (P22), was on a goodwill tour of southern Europe but was denied access to Turkish waters and embarrassingly had to divert to Malta.

The Australian Navy is handicapped by a labor shortage such that some ships can only steam two hours out of each 24 and only five of its six Collins-class subs are operational. High salaries outside and six-month deployments are blamed. But some Australian ships now have permission to fire at illegal fishing vessels. An Indonesian FV got the full ballistic treatment but permission to fire at another Indonesian FV was denied because bad weather might have caused stray bullets to hit someone.

Indonesia's Navy Chief of Staff said his navy now has about 120 warships but needs at least 376 additional warships to effectively patrol that vast archipelago nation.

#### White Fleets

In Prince William Sound, Alaska, the small cruise ship Spirit of Columbia got too close to the shore while bear watching and became stuck in the mud at low tide near Evans Island.

Off the coast of Haifa the small Cypriot cruise ship Salamis Glory managed to ram the anchored Israeli cargo ship Shelly. It broke in half and sank and two ship's officers died. Their bodies were retrieved 12 hours later by Israeli Navy divers while spilled oil moved down the coast. None of the 148 passengers on the Salamis Glory were hurt.

At the Svalbard Islands, 300 miles north of Norway, the master of the small Dutch owned cruise ship Alexy Maryshev, a former Soviet research ship built in Finland, nosed into a small U-shaped cove in the face of the Horn Glacier to give his passengers a good close-up look. A photographer later noted that the ship was too close to take photos. Suddenly the glacier calved and the resultant waves tossed the ship virtually on its beam ends three times as the foredeck was washed by successive waves of water and chunks of ice. Passengers were tossed around and seven suffered broken bones and other serious injuries that required evacuation and hospitalization.

#### Those That Go Back and Forth

An Israeli honeymooner lost his life when a ferry capsized in Thailand.

The Egyptian ferry Princess Hidy sank on the Nile some 125 miles south of Cairo. Aboard was a wedding party and many were singing and dancing just as the ship sank. Dozens went missing.

On the Ubangui River in the Democratic Republic of Congo an overloaded ferry sank during a storm and 39 were believed lost.

At least 30 were injured when the Turkish ferry Salih Reis-4 ran into the anchored Ukrainian cargo ship Semyon Rudnyev.

In Indonesia, the government called for help from its Navy and two commercial companies to relieve a shortage of ro-ros between Java and Sumatra. Normally 25 ro-ros would be in service but five had been pulled off because of safety concerns and seven were undergoing compulsory maintenance.

#### **Legal Matters**

Customs agents discovered 37 kilos of cocaine in a container of toothpaste in the Slovenian port of Koper. They had carried out a risk analysis and became suspicious because of an unusually long voyage from Ecuador. That the container had made a shorter and cheaper voyage to a port in western Europe would have been expected and more logical. They believe the shipment was a test for the port by smugglers trying to find new routes for bringing illegal drugs to Europe.

The master of the reefer *Coral Sea* and two men were thrown into a Greek jail several months ago after 51.6 kilos of cocaine were found in two boxes among more than 27,000 boxes of Ecuadorian bananas unloaded at Aegion. The master slammed the charges as a "farce," pointing out that when the ship left Ecuador nobody knew its destination and his orders to unload 27,377 boxes of bananas at Aegion came 17 days into the voyage.

**Migrants** 

The Greek tugboat *Alexander* rescued 20 migrants about 100 miles off Tunisia although news accounts stated there were 38 onboard.

Another 59 migrants were cast adrift in an inflatable boat off Libya. Authorities were alerted by a satellite phone call from a man on board the leaking vessel.

#### **Nature**

In the North Sea a small leak of oil was detected from the floating storage tanker *Janice A*. and operations were shut down.

In India trouble has broken out over Adam's Bridge, also known as Ram Sethu and worshipped by millions. Dredging that would cross the disputed area is opposed by religious types who claim that Lord Ram built Adam's Bridge to make a passage to Sri Lanka and alternative routes are available.

The Exxon Valdez oil spill (10.8 million gallons or 38,800 tons) in Prince William Sound no longer makes the list of the 50 largest spills. And the largest spill ever from a ship (a VLCC that burned and sank in midlindian ocean after a collision with a fleetmate VLCC) was never reported in the news.

#### **Metal-Bashing**

Nine firms, including India's Essar Constructions, Larsen & Toubro, and ABG Shipyard; Korea's STX; and UK-based McNulty Offshore Construction are competing to build a huge shipyard on the Indian east coast. The shipyard will be built on one of three sites, Tuticorin, Ennore, or Kakinada. The winning private firm will be allowed to design, finance, construct, operate, and maintain the shipyard which would build and repair ships with carrying capacity of up to 300,000dwt. The proposed shipyard will comprise two big docks or two docks for newbuilds and one for repair with quayside length of 2,500m and 12-metre water depth. Three firms have shown an interest in another proposal to build a shipyard on India's west coast.

Many months back environmental organizations, including Greenpeace, tained a stay order against the demolition of the passenger liner Blue Lady, ex-Norway, ex-France, in India on the grounds that it carried more than 900 tonnes of toxic waste such as asbestos and polychlorinated butyls, thus putting at risk the health of poorly equipped workers at the world's largest shipbreaking yard. In June 2006 the Supreme Court judges allowed the vessel to enter Indian waters but ruled that it must remain anchored off the coast of Gujarat until a final decision on the legal battle between environmentalists on the one side and the ship's owner and the Indian shipbreaking industry on the other.

The court appointed an expert committee to provide guidelines on how to safely dismantle all ships that come to India. The committee recommended certain procedures to ensure worker safety, including decontamination before the breaking the ship and proper disposal of any toxic waste. As a result, the Supreme Court banned entry of contaminated ships to its shores and ordered a complete ban on burning any hazardous or non-hazardous material on the beach. The court also asked New Delhi to formulate a comprehensive ship-breaking policy.

But the Supreme Court did allow demolition of *Blue Lady*. "Since the court has accepted the technical expert committee report, we permit the *Blue Lady* to be dismantled," said a Supreme Court judge. If the judges had handed down a decision against its recycling the *Blue Lady* would have had to stay permanently at Alang since it would have been almost impossible to float it again. The cruise ship, last owned by Malaysia's Star Cruises, dropped anchor at Alang in August 2006 and has slid out and now lies nearly 1,500 feet from shore.

The 25-year-old ship scrapping industry at Alang would have been faced with certain extinction if the *Blue Lady* decision had not gone in its favor and could still die if the government fails to offer better incentives. So far in 2007 only 50 small sized ships have come to Alang for demolition against over 300 ships in previous years.

Greenpeace continues to assert that Indian demolition yards like Alang lack the technology to safely handle toxic waste in the ships they scrap. A 2005 report said that thousands of workers in the shipbreaking industry in countries like India, China, and Pakistan may have died over the past two decades due to exposure to toxic waste or in accidents during the cutting up of vessels. But Greenpeace has not yet suggested solutions for the resultant economic impacts if Asian scrapping is stopped.

Fishermen in India's Karnataka state opposed salvage of the Eritrean cargo ship *Denden* saying it could cause marine pollution. The 30-year-old ship was carrying 7,500 tonnes of furnace slag from Mangalore to Dubai when it developed engine trouble in rough seas and ran aground near New Mangalore in June, killing three seafarers. The ship owner is arranging to retrieve the ship's bunker fuel but Karanataka fishermen have petitioned their state government saying that such an operation would affect the marine environment and marine life and have threatened to stage active protests if the salvage goes ahead

#### **Nasties and Territorial Imperatives**

It has become increasingly obvious that Somali pirates in small boats several hundred miles from shore probably operate from a mother ship. The French Navy described what is believed to be such a vessel. It looks much like a purse-seiner with rakish lines, a central mast or tower, and what might be piled nets on the stern. Such fishing vessels usually carry a small boat used to position the purse-seine net around a school of tuna and this could be replaced by several small chase boats.

Canada will build eight armed icebreakers to patrol its northern waters and recently sent off Canada's only operational submarine, the HMCS *Corner Brook* (SSK 878), to the Arctic, perhaps in preparations for demonstrating the nation's sovereignty in those waters underwater. One expert figures that the oil and gas in polar territories that Canada may be able to claim could place it ahead of Russia as a world fuel source.

And the US boosted its interests in Arctic waters by launching a survey of the ocean floor on the Chukchi Cap off northern Alaska.

An American union official said Greenpeace protesters who illegally boarded the Great Lakes bulker *Algomarine* carrying coal were "terrorists."

#### **Odd Bits**

Ever wonder why oil costs so much? In the North Sea demand for powerful anchor handling tugs and platform supply vessels in the UK and Norwegian markets remained strong as oil companies continue to move their drilling rigs from field to field. In the UK owners of large anchor handling tugs were asking for day rates of £85,000 (\$171,450), twice the amount these vessels were getting a month ago, while Norwegian vessels were getting day rates of NKr1m (\$171,850). The large PSVs and some smaller vessels were securing day rates up to £35,000 for cargo runs.

A 25-tonne hatch cover about 12 metres square and in good condition was found floating in the English Channel off Dover. It may have come off a grain carrying ship of 60,000-70,000 tonnes or bigger.

A Dutch firm has designed a ship to carry LNG from offshore gas fields too small to warrant pipelines to shore. A long pipeline coiled inside the ship can carry large amounts of LNG. A 240-metre ship would carry 218 kilometres of pipe.

At MIT attempts to fabricate an artificial fish fin reached the second generation. An artificial fin made of a flexible material curls when electricity is applied across its base and can sweep forward if the current's direction is reversed.

Every ship undergoing repairs or modifications has a rat's nest of cables and hoses running across its decks, each ever ready to trip the unwary. Now a Dutch company is selling S-shaped hooks that hang cables from the overhead. The largest size even glows in the dark if someone trips across the lighting cable.

#### **Head-Shakers**

White-collar workers at a UK naval dockyard went on strike to protest a new pay structure. It would give raises only to good or excellent performers.

Precision devices do not always ensure successful navigation. The operators of a 400-year-old passenger only ferry across the River Severn in Shropshire have been inundated with motorists whose GPS-based sat-nav systems tell them they can use the ferry. Some try to drive onto the small vessel and one driver even managed to immerse his small rental van in the Severn until water lapped over its front end.

Departure of the cruise ship *Celebration* from Jacksonville was delayed for six hours after a bomb sniffing dog detected explosives somewhere in the carry-on luggage. The boom-boom stuff was the nitroglycerin in a passenger's heart pills.

And nobody boarded, nobody disembarked from the *Freedom of the Sea*, the world's largest cruise ship for now, for several hours while bomb experts checked out a grenade-shaped buckle on a child's belt in a suitcase.

The catamaran regatta at the Lake Eustis, Florida, Sailing Club mid-September had a poorer turnout than in previous years, perhaps because of a last minute change in the date of scheduling and the light wind prediction, but still it was a great look at the past and some of the present of catamaran sailing.

One of the original Hobie 14s was present. That was the little beach cat, 14' long with asymmetrical centerboard, less bananashaped hulls, and a cat rig that Hobart "Hobie" Alter brought to the 1969 Yachting One of a Kind Regatta at Chicago. At that event they had high winds and Hobie blew them all away with his funny little boat and started all this beach cat business. Yet that was not the first catamaran around.

I looked up some dates to get my perspective better in hand.

Way first: Polynesians settled Pacific islands including Hawaii in "double canoes."

1864: Nathaniel Herreshoff was asked to never race his *Amaryllis* again.

1950: Malibu outrigger.

1960: Sunfish first made in fiberglass, was plywood before that.

1962: Shark Catamaran by Macalpine Downie.

????: Carter Pyle's P-cat in there someplace. 1968: Windsurfing International founded in California.

> 1969: Hobie 14. 1972: Laser sailboat.

To remind you about catamarans:

#### Nautical IQ Exam

Constructed by Dr. Stephen D. (Doc) Regan, former academic dean and unaccomplished sailor

The following construct is a test detecting the level of saltiness of the sailor/participant. The answers and norm ratings are on Page 27. Use of calculators, computers, reference material, and the like are prohibited. Wearing of nautical attire, especially a jaunty sailing cap, is recommended. Boat shoes are required.

#### Vocabulary

Define the following nautical words:

- Truss
- 2. Mother Carey's Chicken
- 3. Mousing
- 4. Claw
- 5. Cathead Stopper
- 6. Feather
- 7. Galley Staysail
- 8. Navel Pipe (correct spelling)
- 9. Reach Ahead
- 10. Skag

#### Math

- 1. First Rate Ship (number of guns)
- 2. Hundredweight
- 3. Number of masts on a Thames wherry
- 4. Formula for hull speed
- 5. One (1) meter in fathoms
- 6. Breaking strength of a <sup>1</sup>/<sub>4</sub>" three-strand manila line
- 7. Degrees of all ship wakes
- Using International Rules, how many horn blasts given when overtaking a vessel on starboard side.
- 9. Number of feet in a Class A boat (U.S. regulations).
- 10. Recommended weight of a Danforth anchor for a dinghy under 17'.

#### Catamarans at Eustis

By Sam Chapin

The good stuff: 1) Broad beam with no center line flotation so can carry more sail area. 2) Long narrow hulls that are not limited by bow and stern waves and therefore can go faster than the "hull speed" dictated by waterline length of non-planing monohulls.

The bad stuff: 1) Increased wetted surface for the amount of displacement. 2) Two hulls are hard to turn (an advantage for the trimaran that can pivot on the center hull). 3) Very stable upside down.

I remember trying to tack the first Hobie 14 that came to our lake those many years ago. As I remember I was to move forward turning into the wind to help with that part and then to move back to the stern when head to wind to help it to fall off on the new tack. Gregg Murphy, a past Hobie 14 champion, told me to not turn into the wind too slowly or too fast. Greg, that doesn't help me much. Maybe just gybe to go the other way.

Some time later the Hobie Turbo was built. A sloop rig on the Hobie 14 hulls with a neat little roller reefing jib so it would fall off on the new pack by just having the jib backed. Of course, that stopped the boat dead but then it was ready to take off again. There were three of the Hobie Turbos present at our meet this September. Hobie doesn't make the 14 anymore. I think that is too bad. I think we still need little boats.

The second boat Hobie built was the Hobie 16 which was the best beach cat of all time. Maybe not all racing, but parked on the beaches all over the world. Similar centerboard, less banana-shaped hull, sloop rig, and back the jib to get it to tack. Hobie threatened to stop making them a few years ago but backed off on that.

About the next model, Hobie decided that they could go to weather better with centerboards so they put them in the 18 and then added racks to the 18 to get the trapeze guys out further. Then I lost track of the models with the 17 for a big single hander and the 20 followed by the lions and the tigers.

In Key West we raced Portsmouth against Hobie 16s and found them slow in light winds with the extra wetted surface, wide tacking angles, and dead stop tacks. When the wind was up they were really fast. Still stop dead after tack but then off like a rocket as soon as the sails filled. It was a problem for monohulls sailing with them if they tacked down wind of them, hard to judge if one could cross them or not. With the slow tack they would only tack with a really big wind shift or when they got to the lay line. So look for them at the starboard tack layline.

There are all kinds of tricks to right them after a capsize which I will skip now. Maybe someone will write in about that.

The old Hobies were built with wide, somewhat flat decks on the narrow hulls so if one really got racing along and got a bow stuck under a wave it would stop the front end without stopping the stern. Those were spectacular stern over bow somersaults which tended to throw the crew off the front of the boat with all the other stuff.

At our regatta we had ten of the A-Cat boats. This is a development class of 18' boats that are not caught in the technology of 40 years ago. The thing one notices about the A-Cat is the tall square top rig. The tall rig

is more efficient air foil, like gliders, and the square top packs more power than the pointed top hidden behind the mast tip. Check out the square tops on the America Cup boats.

There is a low boom attachment reducing the mast tension. A wide circular sheet track gives control on almost all courses. If going fast enough they are really never going downwind. Narrow bows without any flatness on the top of the hulls are "wave piercing hulls" that would rather go through a wave than buck up and down over them. Not likely to trip if stuck into a big wave. Some of the boats have a reverse angle on the bow which makes the deck shorter than the bottom section. This helps reduce the weight in the ends of the hull and adds to the wave piercing. The long, long tiller extension enables steering from way out on the trapeze.

The stuff you don't see is that this stuff is all made with carbon fiber. The mast is less than 20lbs and the whole rig is just over a 100lbs.

There were other boats in between, F17, Nacra 20, F18, and a couple of Prindles. One could check out the asymmetrical spinnakers, spinnaker snuffers, square top sails, and stuff. It was a good day to look at the boats because the wind was spotty and we waited several hours for it to fill in and then they did get four light wind races in before the end of the day on Saturday.

One of the things that the Hobie generation did was to center the fleets off beaches and public launching sights so they have little connection to regular yacht clubs and sailing clubs, but in spite of that about six A-Cats sail fairly regularly together some place down by St. Pete. I think I see that in their starts. The A-Cats start first with a slow bunched approach and then gang all at the line driving with the starting signal. One or two break away from the pack and look for better air on port tack and the others fight it out with each other for that combination of speed and height.

Coming back downwind the wide angles that they gybe through remind us that the wind is light and high and fast gives a better VMG to the leeward mark. That leeward mark is a gate (two marks that one sails between and then round either to starboard or to port). The wind has shifted some and the left mark is further upwind and eight boats take that one and two go for the other. Perhaps they see more wind out in that direction and give up a little to get there.

The last group to start are the old Hobies, the 14, the Turbo, the 16s. They straggle to the start with no one on the line at the start, not pushing each other. I am impressed that maybe they came here just to sail a little with their friends, talk some sailing, do a little drinking and eating. Maybe this is the old Hobie beach bunch.

The little 14 has its skipper way forward on the lee bow heeling the boat to reduce wetted surface and get the stern up out of the water. He is moving nicely but does stall with his tacking. They are doing Portsmouth for him against the Turbo's and I think he beat them on time.

On Sunday the wind didn't fill in until lunch time and the catamaran guys didn't miss lunch. Awards were presented for the Saturday sailing and everyone seemed happy with the weekend.

Come down next year when the wind is going to be up and these things will really be flying. And, oh, yes the A-Cats have a rule, NO hydrofoils so they won't be doing that kind of flying. Hobie makes one of those things that really flies on foils but it has not become popular.

Mention the words "Grumman Canoe" and most people familiar with small craft will envision the 17' heavy duty aluminum canoe that they paddled about in at Scout Camp or the boat they rented from a canoe livery to paddle down a river for the day. Using WWII era aircraft technology they were well built, relatively stable, zero to low maintenance, and well suited for the postwar population who wanted to get into boating with a minimum of fuss and expense. William Hoffman, a vice president at Grumman Aircraft Corp and canoe enthusiast, is credited with coming up with the original design concept and the first boats went on the market in the mid-1940s.

They ranged in length from 13' to 19' and many of these boats are still going strong 50 or 60 years later. The hulls were constructed of thin aluminum sheets that were stretched to shape over male molds and then assembled with hundreds of rivets that attached the two halves of the hull to an extruded aluminum keel. Aluminum seats, ribs, thwarts, and bow and stern flotation tanks finished off the construction. The "standard" models were not all that light and, with all the rivets, did cause a fair amount of drag when being paddled. That said, the hulls bordered on indestructible and were the canoe of choice for camps and rental liveries.

I paddled many Grumman canoes as a youth and later owned a 13' lightweight model. They could be stored outside and uncovered all year and any dings, leaks, or popped rivets could be easily repaired with hand tools. I live close to the Marathon, New York, plant where Grumman boats were manufactured for several decades, and during a factory tour I was surprised at how lo-tech the construction was. Rivet holes were hand drilled with electric power drills and once the hull sections were fabricated, trimmed, and drilled, assembly was simply a matter of aligning the component parts with rubber gaskets and riveting them all together.

Boats came off the assembly line in a continuous stream, and from nearby Interstate 81 drivers could see scores of hulls stockpiled in the storage lot adjacent to the plant awaiting transport to dealers around the

# Fitting Out a Grumman Fiberglass Canoe

By Alan Glos

world. All in all, this was a very successful design and thousands of the hulls were manufactured for 60+ years. Over 300,000 boats were built in the three decades leading up to the mid-1970s and production peaked in 1974 with production of 33,000 hulls (Striegel, 2007).

In the early 1960s Grumman bought a controlling interest in Pearson Yachts Company in Bristol, Rhode Island, in a bid to expand into the lucrative fiberglass boat market, and somewhere in the late 1970s they came out with a 16' Grumman brand canoe in both fiberglass and Royalex. I happened to see one of the fiberglass hulls at a dealer's shop and it was love at first sight. The 16' hull was truly a thing of beauty. It was light, stiff with a fine entry at the bow and long flat run aft and no keel. The quality of the fiberglass work was extraordinary and it was finished off with mahogany gunwales, ash carry yoke amidships, and caned ash seats. About the only thing I didn't like about the boat were the gunwales that looked unnecessarily heavy and overbuilt, but it was the nicest fiberglass canoe I had seen to date. I had to have one but the price tag at over \$1,000 was prohibitive at the time so my boat lust dream of owning one went into hiatus.

Time marched on and the Coleman Company came out with their very successful line of Royalex type canoes that sold for \$300 or less at K-Marts across the country. With their aluminum tube frame and plastic seats these boats were not going to win any beauty contests but they were rugged, functional, and certainly affordable. I still lusted after the Grumman fiberglass model but found that they were no longer commercially available. I have to believe that they got priced out of the market by the far less expen-

sive Coleman canoes and clones from other companies. It began to look like a Grumman fiberglass canoe was not to be in my future.

Again, time marched on and in the fall of 1980 I found myself at the Sail Locker, a little hole-in-the wall sailboat shop in Binghamton, New York. The Sail Locker was owned by Chuck Durgin, whose real passion was sailing canoes, and in the back of his store there was a stack of bare, unfinished fiberglass canoe hulls nested together. Closer inspection showed that they were Grumman hulls (be still my heart!) and based on the Hull Identification Numbers they were built in 1979. I inquired and Chuck told me that Grumman had discontinued the manufacture and sale of their fiberglass canoes and he was able to buy up a batch of the bare hulls and components (ash carry yoke/thwart and ready to install caned seats). He had plans to convert one or more of them to "C" class sailing canoes but, yes, he would sell me one! I came back the following week and for \$200 picked up a light blue bare hull, thwart, and seats.

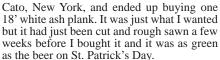
The hull was fresh out of the mold. When the hull was laid up at the Pearson plant the fiberglass mat and resin overlapped the top of the mold and formed a right angle flange that I would eventually have to trim off, but this flange helped to maintain the shape of the hull until wood gunwales could be attached. The sidewalls of the hull were thin but the bottom of the hull appeared to have a ½" or so of foam or balsa wood for stiffness and flotation and the hull was light, stiff, and beautiful to look at. To finish the boat off I would need to fabricate and install gunwales, flotation tanks at the bow and stern, and install the seats and thwart.

White ash (Fraxinus americana) would be the best wood for the gunwales. Well-seasoned ash is an excellent material for gunwales and would match the ash seats and thwart but none of the lumber yards in the area carried ash in the 17' length that I needed and I did not want to scarf shorter pieces together. Finally I located a man in the area who restored old canoes as a hobby and he said he had some ash boards that he would be willing to part with. I visited his shop near









Undaunted, I carted it home. At the time I had access to a nice wood hobby shop at the college where I work and I planed the plank down to 3/4" thickness and then ripped the planed plank into 7/8" pieces. I got eight pieces out of the plank and figured that planed and ripped they would season faster with air exposure to all four sides of each piece. I was amazed at how flexible these 18' long pieces were and I stowed them in the rafters of my garage and waited for the better part of a year before I could move to the next phase. The cost of the plank was \$20 so I was still in bargain budget mode.

When the wood was sufficiently air cured I inspected each piece carefully. I had to reject a few of the eight pieces owing to twists, warps, and other imperfections and at least two of the rejects ended up as high priced tomato stakes in the following summer's garden. The others were flawless with no knots, burrs, or punky areas and ready to go.

The original Grumman gunwale design was almost flat and looked a bit like a racer with a minimum of freeboard. I liked this look but decided to modify it slightly by curving the gunwales up slightly at the bow and stern. As there was plenty of spare freeboard that came with the bare hull, I also added an estimated 1" of freeboard compared to the original specifications. To position the outer gunwales I simply laid one against the bare hull, then "C" clamped it at intervals and made adjustments by eye until I arrived at the desired shape. When I was happy with the shape I scribed a line in the gelcoat of the hull and removed the clamped gunwale section.

The next step was to mask up the area below the scribed line with 2" masking tape (to catch the epoxy resin runout.) I then carefully sanded the blue gelcoat off the inch or so above the line to get a better resin bond and then glued the oversized ash gunnel section to the topsides with WEST® epoxy resin thickened with





chopped cotton thickener to about runny peanut butter consistency. "C" clamps at about 16" intervals held the gunwale outer wall in place. To insure a good bond I then drilled small holes at about 6" intervals from the inside of the hull and into the gunwale section and inserted ¾" long temporary pan head screws. With the clamps and temporary screws I got a nice even resin runout top and bottom and I carefully wiped up the resin on the bottom to make sure it didn't end up staining the gelcoated topsides. When the resin was partially cured I removed the masking tape and cleaned the area with a rag dipped in acetone to remove any remaining resin or tape residue.

When the cure was complete, I transposed the dimensions at 12" intervals along the other topside, laid the other gunwale section on these hash marks, scribed a line, and installed the second outer gunwale in the same fashion. When both outer gunwales were installed and the resin was completely cured, I then rough sawed the scrap fiberglass and flange off the topsides about ¼" above he top of the gunwales and removed all of the temporary pan head screws.

Installation of the inner gunwale section was easier, but the sections had to be pre-cut carefully and beveled at the ends so they formed a mitered joint at the bow and stern where the starboard and port inner gunwales met. Once the sections were cut to final shape I dry fitted them on the inside of the hull and drilled holes at 12" intervals from the outer gunwale through the fiberglass shell and slightly into the inner gunwale sections. I then countersunk the holes and again dry screwed the inner sections in place with flat head brass wood screws.

When everything fit properly, I masked up the inside of the hull, attached the gunwale sections with thickened epoxy, and screwed the assembly together using the wood screws as clamps. Using a plug cutter I then made plugs from a piece of scrap ash and drove the plugs into the countersunk holes with a little unthickened epoxy. The last step was to clean off the excess resin run out on the bottom with acetone solvent.

When all the epoxy had cured I belt sanded the top of the gunnwales with a 100 grit belt so the fiberglass edge was sandwiched between the outer and inner gunwales and then rounded over the edges of the gunwales with a router and 1/4" diameter round over bit. I left the inner gunwale square on the bottom, but with a sharp block plane. I beveled the underside of the outer gunwale so it was full sized where it joined the fiberglass hull but a little thinner on the outer edge. This bevel reduced the weight a little and was esthetically pleasing. Hand sanding down to 220 grit sandpaper finished off the gunwales. With the finished gunwales in place I was amazed at how stiff the topside of the hull became.

Installing the thwart and seats came next. I cut the thwart to size and bolted it onto the underside of the inner gunnel exactly amidships. I used two flat head 3/16" stainless steel flat head bolts without epoxy. Canoe thwarts are easily broken (mostly through clumsy moves in the cockpit!) and I figured if I ever had to replace it, not having it glued in place would make the retrofit easier. Also not gluing the thwart to the gunwales allowed for a little flex without the risk of cracking the gunwales or the thwart.

The caned seat assemblies that came with the purchase were wider then the inside of the hull and, before fitting them, I had to determine where I wanted them positioned fore and aft. I scaled the locations from an advertising brochure photo and a friend's 16' canoe. I then sawed the seat frames to the proper width and installed them using 3/16' flat head stainless steel bolts with 3/16" inside diameter copper tubing as spacers. Again, I looked at the advertising brochure photo to get an idea how deep each seat needed to be set into the hull knowing that I could always use longer or shorter bolts if it turned out that the seats needed to be higher or lower. As luck would have it, the location of the seats seemed good right from the start and no adjustments were necessary.

Now the only remaining fabrication was making the flotation tanks in the bow and stern. Again, looking at the advertising bro-

chure photo, I scaled the approximate size of the tanks and made them out of metric (about ¾/6" thick) marine mahogany plywood. To get the right shape for the vertical and horizontal panels I made cardboard templates and kept trimming then until I got the right shapes. I epoxied the horizontal panel to the underside of the "V" in the gunwales and then covered the top of the panel with 3oz fiberglass cloth and WEST® epoxy resin. This added strength and helped to insure a water tight fit.

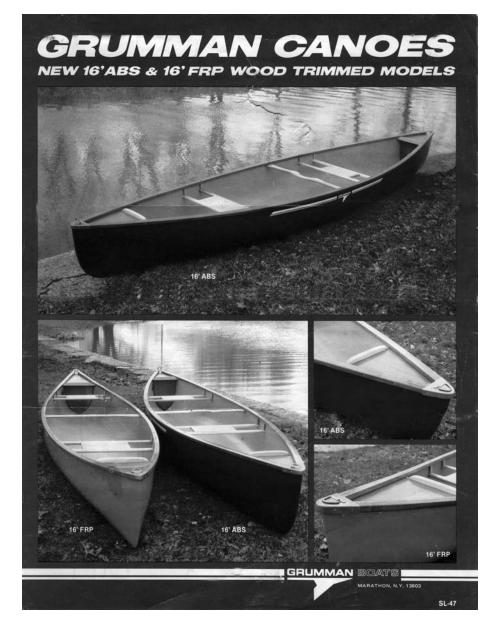
I then fabricated a ¾"x¾" piece of mahogany with rabbets and limber holes to join the horizontal panel to the vertical panel. I attached the vertical panel to the sides of the hull with epoxy resin and 2" fiberglass tape, and then covered the panel with epoxy resin and fiberglass cloth. As a final step, I installed a drain plug in the bottom of each tank and a 5" inspection port on the vertical panels and then placed a plastic bag inside each tank filled with Styrofoam packaging "peanuts" just to make sure the flotation tanks would function even if damaged or holed.

I finished the bare wood with Interlux spar varnish and painted the bare fiberglass interior and new vertical tank panels with Pettit two-part, gray epoxy paint. The combination of the light blue hull exterior and grey interior went well with the blond ash wood

and mahogany components.

The boat finished out at about 65lbs, not ultralight by canoe standards but lighter than most 16-footers and yet heavy enough not to be blown all around in a brisk cross wind. True to my predictions, the boat had good manners and paddled easily in the flatwater conditions it was designed for. It also adapted well to the subsequent addition of an outboard motor mount and my little 1.2hp outboard motor. I still think about adding a "C" class sailing rig with leeboards and a Laser style sail but maybe that will be another story for another time.

(Read about the history of the Grumman aluminum canoe, "Paddling a Canoe to Success" at: http://www.newsday.com/community/guide/lihistory/ny-past516,0,6640331, print. story?coll=ny-lihistory-navigation, Lawrence Striegel, Staff Writer, Newsday.com, 2007]







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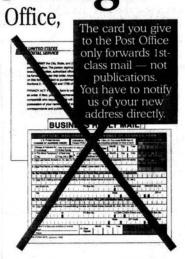


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Blue Mountain Lake in New York's Adirondacks is a long way from the South Bronx, not only in miles but in culture and environment as well. On the September 15-16 weekend there was also a goose-bump raising difference in temperature as Blue Mountain Lake experienced its first hard freeze while the Bronx continued to swelter in big city heat.

Despite this the city and the hamlet were connected on September 16 when a brand new handmade boat, a replica of an Adirondack logging bateau, was christened and launched on the pond at the Adirondack Museum. Snuggled in fleece and sweatshirts, nine young people from the Bronx (the boat's builders) joined cheering museum staff and visitors as the graceful little bateau slid into the water. This bateau is the end product of more than a year of collaboration among three institutions.

#### The Project

For the past three years students and apprentices from Rocking the Boat, a non-profit youth development organization located in the Bronx, have spent their summers building traditional wooden boats at Philipsburg Manor on the Pocantico River, one of six properties owned or operated by Historic Hudson Valley. This year Rocking the Boat and Philipsburg Manor agreed to build a logging bateau for the Adirondack Museum at Blue Mountain Lake. The boat is a scaled-down replica of a 23' logging bateau that the museum has in its collection.

Conversations between Museum Curator Hallie Bond and Thom Thacker, Director of Philipsburg Manor, generated the project which was underwritten, in part, through the generosity of Naomi Levine, a resident of New York City and Long Lake, New York, who grew up in the Bronx. Ms. Levine, a long time friend and supporter of the museum, was excited to see the museum reach out to young people from the Bronx and be able to introduce the Adirondacks and the idea of wilderness to them as part of the program.

# Rocking the Boat at the Adirondack Museum

The finished bateau will be used to provide museum visitors with an "on the water" experience, complementing the extraordinary exhibit "Boats and Boating in the Adirondacks, 1850 to 1950." The Adirondack Museum has the second largest collection of inland wooden watercraft in the United States.

#### **Rocking the Boat**

Rocking the Boat is a traditional wooden boat building and environmental education program based in the southwest Bronx, New York City. Through an alternative multi-faceted hands-on approach to education and youth development, Rocking the Boat addresses the need for inner city youth to achieve practical and tangible goals relevant to both everyday life and future aspirations. During the process of building a traditional wooden boat, Rocking the Boat students create something not only beautiful but also practical in their own lives.

According to Adam Green, who founded Rocking the Boat in 1995, the organization's method of interconnecting every activity, building boats by hand, learning how to row and sail them, and using them to restore the Bronx and East Rivers, enables Rocking the Boat to reach students at successively deeper levels.

Young people enrolled in the program have built more than 20 boats over time and Rocking the Boat is recognized as one of the most dynamic afterschool and summer programs in New York City. For more information visit www.rockingtheboat.org

#### **Philipsburg Manor**

Philipsburg Manor is a nationally significant survival of a late 17th and early 18th century milling and trading complex that was owned by an Anglo-Dutch family of merchants, rented in small plots by tenant farm-

Student boat builders join Adirondack Museum Curator Hallie Bond, Trustee Glen Pearsall, Adam Green, Director of the Rocking the Boat program, and Thom Thacker, Director of Philipsburg Manor, to introduce the logging bateau Naomi.



ers of diverse European backgrounds, and operated by a community of enslaved individuals of African descent.

In pre-Revolutionary times Philipsburg Manor was the seat of a 52,000 acre commercial empire owned by the Philips family, one of the most powerful in New York. The family also had one of the largest slave holdings in the colonial north.

In 2001 Philipsburg Manor underwent a massive re-interpretation. Costumed interpreters now tell the story of the manor from the perspective of those who toiled there. This is not "first-person" role playing. Evidence in the historical record is used to talk about specific individuals who lived and worked on the site. In 1750 23 enslaved men, women, and children lived and worked at Philipsburg Manor, providing the skilled labor necessary to operate a milling complex, bake house, farm, and dairy, and the expertise to pilot sloops up and down the Hudson River.

#### **Adirondack Museum**

In 2007 the Adirondack Museum is celebrating 50 years of collecting, preserving, and interpreting the history of the Adirondack region. The museum believes in the power of that history to ignite the imagination, stimulate thought, and shape the future.

Museum collections, programs, and classes for schools reflect stories of life, work, and play in the Adirondack Park and northern New York State. The museum collects broadly, from rustic furniture to landscape paintings, from fishing flies to chainsaws, from quilts to carriages. The museum's boat collection of 226 small craft is one of the finest in the country and is used extensively to help visitors explore the ways in which people have used the region's many waterways for work and for pleasure. For additional information visit www.adirondackmuseum.org

#### **Building the Bateau** — The Process

The Rocking the Boat program at Philipsburg Manor included 16 students who came to the site four days a week for six weeks this summer. All students were paid a stipend. They were divided into four teams. Each day one team would practice coopering (barrel making), one team would work on the boat, one team would work on a fence restoration project, and one team would learn water skills (swimming and boating). The teams would rotate each day so each student participated in each activity one day a week.

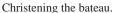
This is the fourth year that Philipsburg Manor hosted the program. They now display two boats made by Rocking the Boat students at Philipsburg Manor, while the third is moored at Van Cortlandt Manor in Croton-on-Hudson, New York, another historic site.

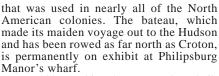
The logging bateau project delighted all as there is no more space at Philipsburg Manor to display boats. The latest project will, of course, remain in the Adirondacks.

While on site the students wore period clothing (as do other interpreters) and interacted with visitors, answering questions about the particular skills they were demonstrating. They used only hand tools authentic to the period.

The relationship between Philipsburg Manor and Rocking the Boat began in the summer of 2004 when a group of Rocking the Boatstudents built a colonial bateau. The 21' bateau, based on a boat recovered from Lake George that dated back to the colonial period, is a simple flat bottomed boat







In 2006 Rocking the Boat students built an 18' cargo scow for Philipsburg Manor. Dating back to the colonial period, cargo scows were simple flat-bottomed boats with square or blunt ends which, for the purposes of load-



On the water.

ing or unloading, could be raised or lowered to correspond to the slope of the riverbank.

#### The Launching

About half of the team of students who built the Adirondack Museum's new bateau made the trip to Blue Mountain Lake to launch the boat. They were accompanied by Adam Green, Thom Thacker, and others involved in the program. The group camped in freezing temperatures at the Lake Durant

campsite operated by DEC. They joined local students at the museum on Saturday, September 15, 2007, for a cookout.

On September 16, 2007, the bateau was christened *Naomi* in honor of Naomi Levine. Water from the Bronx River, the Pocantico, and Blue Mountain Lake was mingled in a handmade wooden bucket and poured over the bow of the pale blue boat before it was gently placed in the museum pond, Bronx craftsmanship in an Adirondack setting.

### Season's End...

Photo by Barry Donahue





#### **KAYAKS**

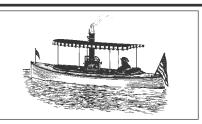
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#### The Marietta Yawl

By Joseph C. Dobler NA

Rowing is for everyone. While the Marietta Yawl Boat is designed to appeal to secondary school students and disadvantaged youth, it should interest others. Neither sex nor age nor athletic prowess are limiting factors. Some of the handicapped have become involved successfully in rowing. Any group interested in healthful, non-stressful, moderate exercise and fresh air may participate. It can be as relaxed or strenuous as desired. It is non-polluting and non-disturbing. It is the best way to observe waterfowl and other wildlife. Competition is possible, if wanted. With only one boat different crews may race by comparing times over a known distance.

Museums and other historically oriented organizations, particularly those with riverine or marine leanings, may find existing contacts receptive to this activity. Many have facilities suitable for instruction and construction.

Organizations, such as yacht clubs, that have seen the demographics of their membership change with the passage of time from mostly young hotshots to more settled family types may find a non-stressful rowing program attractive.

Retirement communities would seem to be a good field for this activity. Many have workshops where the boats might be built. The materials are readily available and relatively inexpensive. Boat building skills are not required. The components are prefabricated before set-up.

Unlike conventional boat building, nothing is attached to the floor and the assembly is a quick and easy procedure. The boats are light and easily transported. Perhaps some who are finding golf too frustrating or tennis too hard on the knees may find rowing a welcome change, and it is done in a sitting position. Those wishing to do something for society may foster youth involvement. Existing programs for getting young people involved in rowing show that all it takes is a little guidance plus the necessary watercraft.

The Marietta Yawl: Quoting from a letter from James Stephens of Marietta, Ohio: "I have an idea for next year that our club will back that may interest you. We want to stimulate interest in rowing among high school kids. There are at least six high schools on the Muskingum River but none has resources to enter rowing in the modern, sliding seat, high expense manner. We believe we could convince two schools to build a skiff apiece and row competitively. Because they are river towns we think the boats should be in keeping with their history".

There was a time when many river towns depended on steamboats for transportation of freight and passengers. Some of us regret the passing of the steamboat but it has been replaced by faster and more efficient carriers. The rivers, for the most part, are still there. They are available for healthful outdoor activity.

Each steamboat carried a work boat, called the yawl or yawl boat. If you look up Chapter XII of *Life on the Mississippi* by you-know-who, you will get a good idea of yawl boat usage. We have here a boat that is, in form, a typical yawl though more slender than some. The old yawls were built heavy to take rough treatment and got even heavier as they became soaked. The new boat is built using plywood taped seam construction mak-

ing a boat that is permanently tight, durable, and tighter by half. There is a corresponding reduction in material and labor costs.

Arrangement of oars may be varied. Four sweeps and coxswain is the primary setup but two, three, or four pairs of sculls may be used. The boat may be handled by a single sculler. Seats are fixed and the oarlocks may be thole pins or pivoting metal. The rudder may be locked on center making the coxswain optional. Rowing is suitable for all ages and requires no special athletic ability or talent. It should appeal to a large percentage of the school population and probably some of their elders. Costs should be much easier on the PE budget than contact sports. Equipment may be built by participants or parents.

It is hoped that this project will find appeal among scholastic rowers for competition and recreation as well as among others at large. Increased awareness of the need to conserve and preserve our water resources

may be an added dividend.

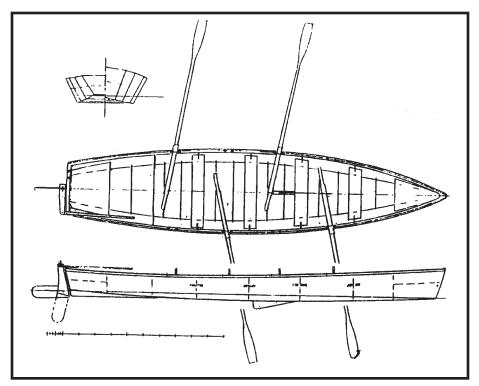
While competitive and recreational rowing is the reason behind the design, there are other possible uses for it. It can be rigged to sail and being light and easily driven will go well with a fairly small rig. A centerboard trunk is an easy modification and will not impair rowing performance. Some users might want to combine rowing and sailing. If equipped with a simple tent and appropriate gear it will make a good "Camping Cruiser." People who still have some of the Tom Sawyer-Huck Finn spirit can take it from there.

During the steamboat era, before the lumberjacks had finished cutting down all the "Forest Primeval," white pine boards long and wide enough to make the side of a yawl in one piece were readily available. That is no longer the case. Such lumber is now just about impossible to find and, if found, is very expensive. Plywood is available and by using materials and techniques that were not available then, functionally comparable plywood boats may be constructed. They have the advantage of much lighter weight, a major consideration in an era of high mobility.

Plywood was not a satisfactory material for boats until about 1940 when US Plywood introduced Weldwood which employed a waterproof bond using the "Hot Plate Process" with thermosetting resins as developed by Leo Backeland and others. Boat builders began using plywood by mere substitution, keeping the rest of the structure the same. Some still do. There is nothing wrong with that. Plywood can be substituted advantageously for lumber in various areas of boat structure. Examples are planking, decks, and bulkheads.

However, the year 1962 saw a major development that changed the whole picture of plywood for boats. That year saw the debut of the Mirror Class Dinghy, designed by Jack Holt with technical assistance from Barry Bucknell and backed and promoted by the mass circulation London Daily Mirror. The new boat eliminated much of the lumber and fastenings that had been used only as connectors between plywood panels. They were replaced by taped seams in which fiberglass tape bonded with a plastic resin made the boat, in effect, a one-piece structure. Polyester resin was used at first. Epoxy was used when it became available and is now the preferred bond.

The British magazine *Yachts and Yachting* of February 8, 1963, told of the new boat and its enthusiastic reception at the London Boat Show. Those of us with plywood experi-



#### **Dobler Plans** To Be Available Again

By Bob Archibald

A few issues back you ran an article about some of the boats that were designed by Joe Dobler. While I never met Mr. Dobler I did have some correspondence with him in his later years. I was impressed by the clarity of his writing and in reading his letters I seemed to see into the soul of a very beautiful person. He also submitted articles to TSCA from time to time and these were always an enjoyable read.

Some time ago I made an effort to contact Tom Seaton, son-in-law of Mr Dobler, about a design for a pulling/sailing boat that he had designed some years before called the Marietta Yawl. I found it very difficult to get in touch with Mr. Seaton and only by luck was able to find a phone listing for him. He had recently moved. He was most gracious in the fact that he supplied me with plans (at a reasonable cost) for the building of the above-mentioned boat.

With the thought that maybe the plans of Joe Dobler could be made available again. I contacted Chuck Leinweber of the online Duckworks magazine suggesting that he get together with Tom Seaton about publishing the plans. As it turned out, Chuck had already met Tom at a Scuzbums messabout and it is now in the works. I'm really pleased that Joe Dobler's plans will once again be available to the small boat communi-

Interested readers can look into this at www.duckworksbbs.com.

ence, who happened to be looking, knew that here was something new and that things would never be the same. The Marietta Yawl takes full advantage of the method and includes a number of innovations developed in connection with numerous other taped seam designs.

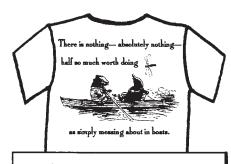
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#### Nautical IQ Exam Answers

Vocabulary

- Securing a yard to a mast allowing it to be lowered or raised.
- 2. Sea Petrel (in plural, a slang name for snow).
- Rope secured across the opening of a hook to prevent it from clearing itself.
- Working a vessel to windward from a lee shore to avoid shipwreck.
- 5. A chain securing an anchor after it has been catted home.
- To luff a sail so that it catches less wind, used when the wind is too strong or when entering a slip or mooring.
- Fabric wind scoop used to force air below decks for ventilation.
- Deck fitting through which the anchor 8. chain passes to the chain locker.
- The distance traveled between the time an order for new speed is made until the vessel actually attains that speed.
- Chain on barges thrown over the stern as a drag to attain balance.

#### Math

- 1. 100
- 112 pounds (damn British)
- 2. 3. 0 (this beast is rowed)
- s=1.34 x sq root of length at waterline
- 5.
- 6. 480 pounds
- 7.
  - 2 long blasts and one short blast
- Under 16
- 10. Five (5) pounds

#### **How You Rank**

18-20 Points: Damn Coast Guard officer, not invited to MY boat party.

16-17 Points: Dork fish, Bosuns Mate, Chiefs. You bring the beer.

**4-5 Points:** Newbie but tolerable company. Less than 4 Points: But you look good in DuBerrys and Nautica. Be sure to wear a boating cap with lots of gold trim or eschew the whole thing and just messabout for the fun of it.

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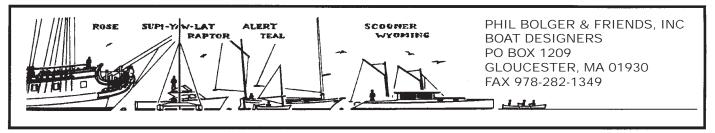
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This is a little relief from the fisheries project which, by the way, is showing some signs of life! Back when I was doing studies to readers' wish lists in the old *Small Boat Journal*, somebody asked for a plywood version of the Herreshoff 12½ sloop. I produced a fairly detailed preliminary study and some discussion of the 12½ (Bullseye, Doughdish, etc.) and of its origin at Herreshoff's. I reprinted the article in my book, *Boats with an Open Mind* (International Marine/McGraw Hill 1994). The book is still in print

# Bolger on Design

# Plywood 12½

Length overall 16'2" — Waterline 12'6"

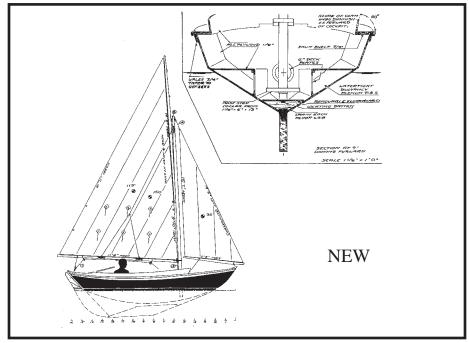
Beam over rub moldings 6'0"

Draft 2'9" — Sail area 150sf

Displacement 1500lbs

All specifications are for the revised design

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and available from nautical book services. Later I made a set of working drawings for it in case somebody wanted to build one.

This design is not an "instant boat;" that is, there aren't any expansions of the panels for prefabrication. It has to be lofted and set up in conventional boat building practice. I sold a few sets of plans but so far we haven't heard of a completed one. A while back, when one was ordered, Susanne commented that it seemed lower sided than would be best for the windy waters that client frequented.

I had, for some reason I've forgotten, given the hull of the plywood version less freeboard than the original Herreshoff design, I suppose I thought it would look better with the sides in flat (though flaring) plywood. I had made the cockpit coaming higher with its top at the same height as that of the Herreshoff, but that's not quite the same. Susanne said, "Let's make quick work of a redesign with, say, 3" higher sides." The buyer agreed and we made the sail plan here.

The waterline drawing is the new one, with the original design for comparison and to show the underbody. We also moved the coaming inboard a couple of inches to give that much more margin of heel before the boat starts to ship water. Increasing the height of the flaring sides also gave a couple of inches more beam. The plywood/epoxy composite joint construction was not changed but the new section here shows the slightly wider decking around the cockpit. We did not raise the cockpit benches since the view over the bow was still adequate and the added shelter will be welcome in rough water. The bulkheaded off ends of the boat assure that the 750lb ballast keel won't take her down (as has been known to happen in the original boats of 90 years or so ago when the class

The preliminary study in *SBJ* and in the book had a jib-headed mainsail, as did the second generation of the Herreshoff boats. It's interesting to note that when the class was "modernized" with the taller mast and marconi mainsail the new boats proved to sail exactly even with the gaff-riggers. Clubs that had both types started them all on one gun with no complaints of unfair advantage...

When I made the building plans I showed a Solent lug rig to eliminate the expensive sail track and to shorten the mast, especially to leave no bare masthead above the sail when reefed. This rig can be a handful to control in lowering, but I've sailed one of about this size in a fair breeze and found it workable. We did add some lazy jacks to the new sail plan to help in handling it. Maybe some day when we have more spare time than we've had in recent years we'll draw a gaff rig for this pretty boat. Or a full set of expansions...

Plans of the Plywood 12½, our Design #628, are av ailable for \$100 to build one boat, sent priority mail, rolled in a tube, from Phil Bolger & Friends. PO Box 1209, Gloucester, MA 01930.

I don't know how much this will help the boat builders but it's a good woodworking trick. I bend a lot of wood but rarely use steam. A few things will be needed to bend things my way but the whole process is completely safe and non-toxic. It also makes for an impressive demonstration if needed by a boat builder to convince a client that he is not stuck in the 19<sup>th</sup> century.

We need to do some science first. Wood, a fine material for boat building, is a cellular structure. Wood can be bonded together with adhesives. Notice I didn't use the word glue. By strict definition, a glue is an animal protein/water-based substance and those tend to be water soluble. Adhesives are more likely to be waterproof. Adhesives work two ways, by chemical and mechanical adhesion. The best mechanical adhesion occurs when the adhesive fills the wood cells on the surfaces of the bond. The pieces bonded need to be placed under pressure, and the more even the pressure, the better.

Let's mix a little math in with the science. We have pressure available to us at all times. The atmosphere around our planet is attracted by gravity to the great mass of the earth and the mass of the atmosphere is not insignificant. Atmospheric pressure is approximately 14 pounds per square inch (it varies with elevation, temperature, and humidity) and that doesn't sound like much. However, since there are 144 square inches in a square foot...hmm, let's see,  $12 \times 12 = 144$ ,  $144 \times 14 = 2{,}016$  pounds per square foot. That is formidable pressure.

Wouldn't it be nice (to quote the Beach Boys) if we could use this pressure to achieve optimum adhesive bonds? That is, even pressure, penetration of adhesive into the bonded surfaces, safe, cheap, fascinating to watch, and so on? We can, but one has to open the pocketbook. I'll cheer you up about that bleak prospect by telling you it's a one-time expense.

A vacuum press is worth the money. A pump, a bag, a thing called a platen, and a form are needed. The platen and the forms can be self-made. The air pressure is available at no cost. There are many vacuum press dealers and I won't provide any opinions here on my favorite supplier. For adhesive, something like an aliphatic resin (commonly called "yellow glue"), an epoxy, or Recorcinol can be used. I'll go with Titebond III for purposes of water resistance, convenience, and economy but it's a matter of choice. Deciding to go with that expensive, vile, and toxic stuff called Urethane Glue is a bad choice.

A fancy vacuum pump is not needed. An expensive vacuum pump won't "make more vacuum," it will just evacuate the atmosphere faster. I use a cheap pump and an old vacuum cleaner that I got for free. My junk Electrolux will pull most of the air out of the vacuum bag quickly, at which point the pump can take over and finish the job. One time, as an experiment, I put an old bathroom scale in the vacuum bag. After the wheezy Electrolux did its thing, the scale imploded. That was impressive.

The place to spend money is on the bag. Don't buy a cheap vinyl bag unless it will get used on very rare occasions. Buy the best. In this case, cheap things are for rich people. Get the thickest urethane bag available because it will endure constant use for years. Urethane bags are quite agreeable to elastic deformation. The other important thing is the size of the bag. Suppliers will make any size bag to order. The bag needs to be a little bigger than the biggest thing planned to be put into it.

## Bag It!

By David J. Hagberg

If really long things must be glued up once every two years, and smaller things more often, I will absolve the buying of a cheap big bag as long as a good small one is bought.

The platen is important. A platen is a flat surface that is placed in the bag for a gluing surface. I recommend a sheet of melamine because glue squeeze-out doesn't stick to it. Cut the melamine so that it fits inside the bag like a letter fits in an envelope. Make it a loose fit and round over the edges and corners so the bag doesn't get damaged. Take a sidewinder and cut a shallow checkerboard grid into the top and bottom surfaces of the melamine. The grid will allow any air trapped in the far end of the bag to migrate to the vacuum pump hose. If only flat panels are being glued this takes care of all the equipment. For gluing curved pieces (is there any such thing as a flat panel on a boat?) a form will be needed.

Make the forms strong. I had a form implode once so I don't feel the need to experience that phenomenon again. Forms can be made by sawing multiple identical curved pieces and spacing them on runners about 4" apart. Screw the curved parts to the runners and place some blocking between the curved parts. I usually construct the surface of the form out two layers of ½" lauan plywood and glue the form assembly together in the bag. If a compound curve is desired the form will need to be much more complex. Of course, the wood being bent into a compound curve will need to be correspondingly complex.

In order to apply the glue (adhesive, sorry) uniform applications on both surfaces will be required. Many layers can be glued up if desired but let's make it simple and glue two pieces for the first try. Application is easy with a paint roller. Pour the adhesive of choice into a roller tray and roll the paint roller around in it. Apply even coats of the adhesive on both parts being glued. Don't leave any dry places or there will be glue starvation. Don't slobber on too much either. A little practice will make anyone an expert. Slap the two pieces together.

In order to keep the pieces from squirming around under pressure, tape the corners of the work pieces together with duct tape. Slide the work pieces into the bag and "zip" it closed. Hook up a junk vacuum cleaner (the intake side of an air compressor will work, too) and evacuate most of the atmosphere. The pressure at work will be noticeable. Once the vac seems to have done the lion's share of the work, hook up the vacuum pump. Stand back and admire the power of the laws of physics.

Let's do a little more science. Our kindergarten teachers have told us all to put the cover back on the library paste so it doesn't "dry out." How is that glue in the bag going to dry if there is no air in there? This is counter-intuitive, but it works. The vacuum desiccates the glue.

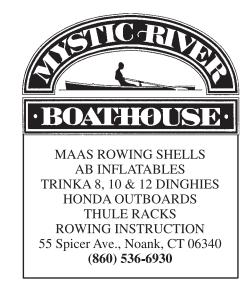
The adhesive I am recommending is mostly water. (Epoxies work well in vacuum bags but they harden by chemical reaction, not evaporation of solvent.) Water cannot exist long in its liquid form in a vacuum. The water in the adhesive will vaporize over eight hours or so. In fact, if a work piece is left in the bag under vacuum for a 24-hour period,

yellow glue will cure so that the squeeze-out around the edges will be glass-hard and sharp like a knife.

When I demonstrate my vacuum press I am invariably asked to describe what would happen if I put some hapless person in the bag and turned on the pump. If this arouses curiosity, try putting a dead mouse in a vacuum bag sometime. It will come out looking something like a four legged potato chip with empty eyes, completely flat, hard, and totally dry. That's true.

Besides completely even pressure and an optimum glue cure, the adhesive penetrates the suddenly very empty wood cells. When the tree was alive the cells held water and the drying process removed it. Under atmospheric pressure the cells are full of air and the action of the vacuum will pull the glue right into the cells. The mechanical adhesion can't be beat.

That's about it. By paraphrasing most of this material verbally and providing a demonstration of pressing, say a canoe rib, a prospective boat customer will be roped and tied. No steam burns, the shop won't catch fire and/or explode, and what to do with the dead mouse when the trap snaps will become obvious.





I think plywood is a great boat building material. I've built nine boats out it and still have the Bolger Micro I built 17 years ago. It is a great boat and still is in good shape. However, a recent bad experience has given me doubts about mixing solid wood with plywood, especially in structurally important components beneath the water line. Chine logs and bulkhead framing are two such examples where solid wood components are often glued to plywood. The bad experience was with the lower

The bad experience was with the lower support for a leeboard on a Michalak Mayfly 16. This is a great boat by the way, very seaworthy, easy to launch, easy to rig, and easy to reef. The leeboard and rudder fold up readily so this boat can be sailed right up to the beach. It also carries a small motor and oars

for use as a fishing boat.

The leeboard for the Mayfly pivots on a stoutly built bracket mounted on the outside of the boat just above the water line. There is another bracket with a slot for the top of the leeboard which prevents the leeboard from kiting out. That bracket is bolted to the gunwale. The lower bracket, according to the designer's building notes, is built from a solid piece of wood with pieces of plywood laminated to it. The placement of this bracket is critical. Put it too high and the leeboard will not reach deep enough; too low and the leeboard, when folded up, will be deeper than the bottom; too far fore or aft and the boat will have poorly balanced steering.

I initially placed this bracket about 1½" too low. The bracket was just below the water line and the leeboard was too low when folded up so that it dug into the beach. I dealt with the error by adding a block on top of the misplaced bracket and putting the leeboard pivot through the block. This raised the leeboard but left the bracket below the water line. It didn't seem to effect the performance of the boat much, but when I left the boat on a mooring for three months the bracket delami-

nated, as shown in the photo.



One cause of the failure of the epoxy that held the elements of the bracket together was probably the fact that epoxy did not adhere well to oak. The solid wood was red

# Gluing Solid Wood to Plywood

By George W. Fulk

oak, the plywood okoume. The main reason for the failure, I think, was that solid wood and plywood swell at different rates when they become wet. Plywood probably does not swell much at all, red oak swells a lot and with enough force to break an epoxy bond. I've rebuilt the bracket out of a piece of solid white oak and expect the new one to last a long time.

long time

This problem got me thinking about a leak that developed in my Micro after 15 years of use. Like many Bolger-designed boats, the Micro has a freely flooding well in the bow where one can handle the anchor. That is a nice feature, giving one a secure place to stand when anchoring and allowing all the mud from the anchor to wash out through the well. The well is entirely above the water line so it is drained by holes in the bottom. The bulkhead separating this well from the cabin has to be tightly sealed to the bottom and sides of the boat or water will seep from the well into the cabin. The framing for this bulkhead is of solid wood (Douglas fir in my case) and is on the forward surface of the plywood.

This joint on a Micro is subjected to a lot of alternating wetting and drying. There may be some flex of the bottom, too, as this flat bottom boat does pound in a chop. After more than 15 years, that seam on my Micro began to leak. When I scraped the paint away from that area I could see water there. I resealed the seam with fiberglass tape and epoxy which should keep it watertight for another 15 years. My brother also had a problem with the same area on his Bolger-

designed Skilegalle.

It seems to me that it is very difficult to bond solid wood to plywood in such a way that the bond will last many years when subjected to alternating wetting and drying. Try to seal the material with epoxy to keep water out may help but sooner or later some water will wet the solid wood causing it to swell and break the bond with the plywood.

A better, more trouble-free method of plywood boat construction would seem to be the stitch-and-glue method which eliminates chine logs and plywood/solid wood joints below the water line. With stitch and glue a smooth, easy to clean joint between the bottom and the sides of the boat can be achieved.

# A Two Plank Mast

An Alternate Method for Building a Hollow Mast

By Phil Maynard. Submitted by Mike Wick

I needed a 12' stayed mast for my last project. I realized that stacking a 2"x and a 1"x yields 2½" which is a good diameter for this length. Cutting a 60° V-groove in the 2"x and then gluing on the 1"x would get me a simple hollow mast. Not as efficient or elegant as an eight-sided birdsmouth, it's easier to make and close in performance for a short mast without the trouble of making those eight tapered staves (and it's in keeping with my experimenter's heart).

I started by drawing a  $2\frac{1}{4}$ " circle made up from  $1\frac{1}{2}$ " and  $\frac{3}{4}$ " pieces. A centered triangle with  $1\frac{1}{4}$ " sides will give  $\frac{3}{4}$ " staves. I chose to taper the top 4' down to  $1\frac{3}{4}$ " at the tip. Then

the tricky part, laying out the V-cut.

I pre-tapered the 2"x blank to facilitate cutting the 60° groove starting with the 12'x1\footnote{2}'x2\footnote{4}" stock and tapering the top 4' to 1\footnote{4}" width. Pre-tapering yields the proper tapered core cut as the depth changes. I suggest a trial run on white wood scrap to economize on good Douglas stock. I drew sections at 8', 9', 10', 11', and 12' to double check and measure the changing core. I set the fence \footnote{1}\footnote{2}\text{2}'' from the blade and set the blade to 30° and 1" depth measured perpendicular to the table. This depth is to be reduced as it traverses the taper until it is \footnote{1}\text{3}'' at the top of the mast.

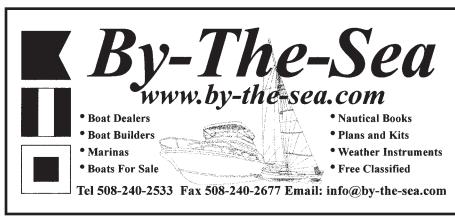
Then I marked the blank with the distance and number of saw depth turns needed along the taper as I pushed the piece through the saw. More experienced woodworkers could have a simpler way of approaching this, but this worked for me. I did not overcut the depth, instead I slightly undercut, breaking out the core and smoothing the apex of the cutout by hand. I saved the core cutout as I wanted sections to fill in again at top and bottom and anywhere along the length solid sections are desired for fastenings. I glued these sections in prior to gluing the <sup>3</sup>/<sub>4</sub>" side on.

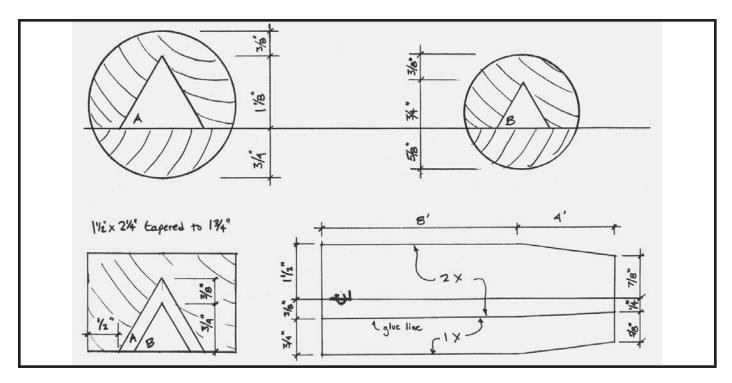
Note: The glue line has a small 1/8" curve over the tapered section to keep the hollow cutout straight. This is due to the core layout relative to the 2"x and the 1"x as it changes over the length of the taper. I tested the springback by clamping at the transition and at each end so that, with just those clamps, I achieved the 1/8" curve. This approximated the required curve at glue-up.

My finished shape is somewhat triangular because the core of the apex is only 3/8" to the outside. From an engineering perspective this is a triangular mast with 3/8" staves with extra wood on to make it round. You could leave the top round or save weight aloft by

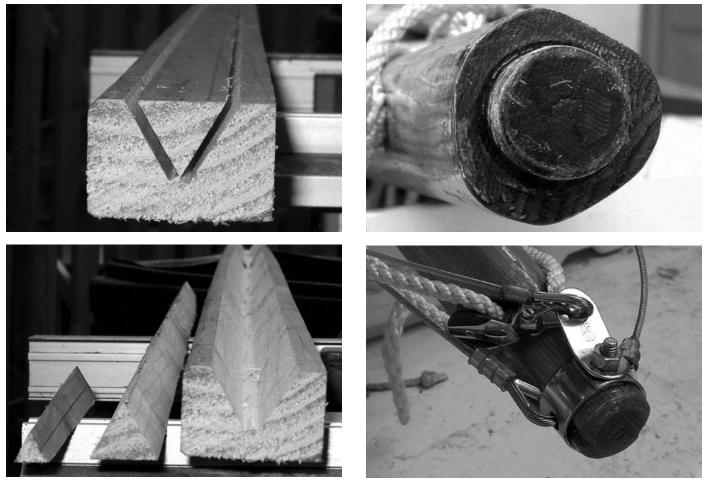
finishing it somewhat triangular.

Using a 1½" hole saw at the top cuts a landing for a ¾" stainless ring strap that secures the stays. At the bottom it makes a tenon for the mast step.





A simple two-piece hollow mast, maximum diameter  $2\frac{1}{4}$ ". If a tapered mast is wanted, first taper the blank in width, then cut out the core. Set the blade  $\frac{1}{2}$ " clear of the fence and  $30^{\circ}$  with 1" depth which is reduced to  $\frac{5}{8}$ " as it traverses the taper. Do not over cut the depth, instead slightly undercut, break out the core, and smooth the apex of the 'V' by hand. Save the core cutout for solid sections at each end and anywhere along the length where solid sections are wanted for fastenings. Glue these in prior to gluing the  $\frac{3}{4}$ " face on. The glue line has a small  $\frac{1}{8}$ " curve over the tapered section to keep the hollow cutout straight. This is due to a different layout approach for the  $\frac{2}{4}$ " and  $\frac{1}{4}$ " sections. Paint the inside with epoxy at glue up. As seen from the core's perspective, this is a triangular mast with  $\frac{3}{8}$ " staves. The extra wood can be left on to keep it round or to save some weight and by finishing it somewhat triangular. I used a  $\frac{1}{2}$ " hole saw on each end to cut a landing for a  $\frac{3}{4}$ " SS ring to secure stays and a tenon for the mast step. The pictures on the left are of a test piece. The pictures on the right are of the finished mast.





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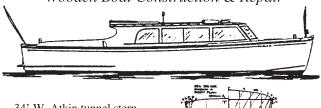
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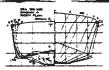
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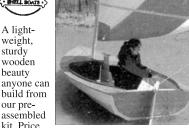
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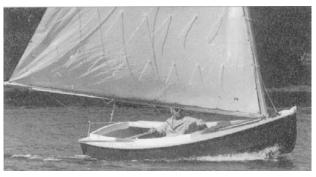
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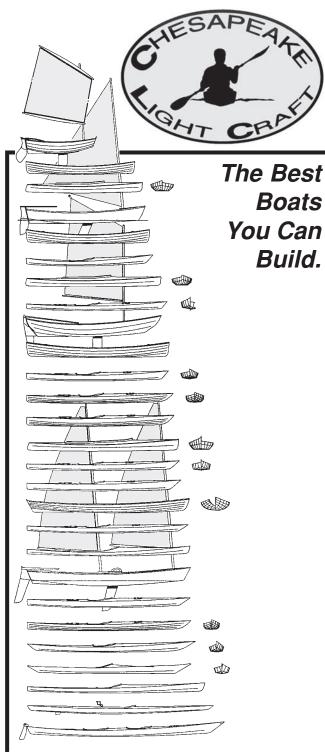
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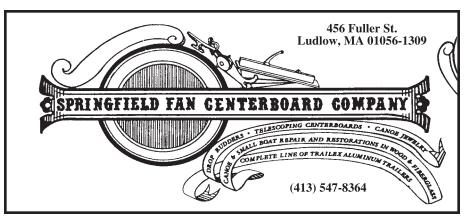
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DICK HALL, Altoona, PA, (800) 494-0709 days, (814) 943-4771 eves, dhall(@barashgroup.com (12)

'75 Chrysler 23' CB Sloop, in gd cond. 7.5 Merc, exc factory trlr w/surge brakes; roller furling; slps 5; fast & comfortable family racer/cruiser; \$3,500obo. (717) 635-8083, thinwaterpaddler@yahoo.com (12)

35' Eastern Interclub Sloop, designed by Philip Rhodes (Design #518), built by Palmer Johnson '50. Mahogany over oak, bronze fastened. Sitka spruce mast, boom, spinnaker pole. Mainsail, jib, genoa, spinnaker. Flathead 4cyl IB auxiliary engine. Fast! Always a fresh water yacht. Cradle/trl. \$23,000. CAPT MILANOWSKI, West MI, (616) 399-4642 (12)

**Used Sailboats,** choice of 2 Compac 14' catboats and 1 Precision 21' sloop. All nice compl outfits. FERNALD'S, 291 High Rd., Newbury, MA 01951, (978) 465-0312 (12)

**'92 Peep Hen,** gorgeous cond throughout. Manufactured by Custom Fiberglass of Florida, may be the very nicest one around. Forest green hull, white topsides, tanbark sail. Has all the trimmings: bronze opening ports, compl cushion set in bunks & cockpit, cockpit tent, Bimini top. Used only in fresh water. 4hp Mercury ob. Galv Performance Tiltbed trlr w/bearing buddies. Sail & tiller covers. Protected from the elements by a large rubberized tarp. Specifications: Length 14'2". Beam 6'4", draft 9"/3' weight 650#, sail area 115sf. Wonderful boat but a younger owner is needed. Asking price is \$7.850. Come and look!

FRED MOLLER, Wells, VT (just south of Poultney), (802) 325-3411, frchmoll@peoplepc.com (12)

**'02 9'-4" Zodiac Inflatable,** model C-285S. Used once then stored inflated in dry garage. Incl towing bridle. Like new. \$500. HAROLD SHETTLES, 50 Hilltop Trail, Salem, CT, (860) 859-2815 (13)



**18'6"** Cape Cod Power Dory, located on Cape Cod. Built in '09 this little beauty sports a Palmer BH6 single cyl mid-ship mounted gas engine of unknown vintage. Rebuilt 30 years ago it has been in storage for the last 20. Has most original fittings incl side mounted helm, tiller, turning blocks, anchor, funnels, rowlocks, etc.

BOB WILLIAMS, Box 3123, Pocasset, MA 02559, (508) 274-2973, Saltydog@inbox.com (13)

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Mail to Boats, 29 Burley St, Wenham,
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26' Pearson Sloop, Commander '65 FG w/dual axle trlr (to move it to your port). Full keel, extra large cockpit, 9.9 Evinrude, 3 sails. \$9,500. ED & BARBARA WALKER, Mystic, CT, (860) 245-0713 (12)

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**9" Ash Wood Cleats**, matched pair varnished w/stainless steel hardware. \$25 delivered. WINTERS BROTHERS, 4555 II Rd., Garden, MI 49835 (TFP)

**Barlow Sheet Winches,** 2 - #25, \$150ea or \$250 both; 2 - #20, \$100ea or \$150both; 2 - #15 w/mast attachment plate & screws, \$75ea or \$100 both. Prices do not incl shipping.

Prices do not incl shipping.
C. HENRY DEPEW, Tallahassee, FL, sisu26@net-tally.com (12)



**Forward Facing Rowing,** w/sliding seat in your canoe. EZ-ROW, INC, PO Box 275, Taylors Falls, MN 55084-0275, (877) 620-1921, www.ez-row.com (5P)

'99 14' foot EZ Loader Galvanized Boat Trailer, w/bunks. Like new as placed in fresh water twice in its life. 800lbs capacity. \$350. HAROLD SHETTLES, 50 Hilltop Trail, Salem, CT (860) 85902815 (13)

Windpilot Pacific Light Self-steering Vane. \$1.150.

BRANDON MCCLINTOCK, Woodland, CA, (530) 662-0602/(530) 908-1788, brandonmcc@usa.net



**Stainless Steel Crankshaft,** for 4' wide human powered sidewheeler. BO takes it. B.T. SHRADER, Port Townsend, WA, (360) 379-3936, bromley@cblespeed.com (13)



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Matsushita Blades, we are offering the 36 tooth, 71/4" Matsushita Combination Blade, a very thin kerf blade that runs free & puts little load on the saw, producing a very smooth cut w/minimal waste. Priced at 1 for \$25 or 2 for \$46 w/free shipping. Send check or money order.

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Newmar Nautilus 15 Battery Charger, charges 2 batteries @ 12v, 15a max. Works fine. \$40 plus shipping. **2-Blade Sailboat Propellor,** right hand, 18" diam x 9" pitch, 1-1/4" shaft. Used but like new cond. \$40 plus shipping. WAYNE JOHNSON, Annapolis, MD, (410) 849-

2696 (11)

Sailboat Fittings, bronze gooseneck, 2 double bronze deck blocks, bronze stem piece, bronze cam cleat, 2 bronze jamb cleats, bronze cleat, 2 ash wood cleats, bronze pelican hook, 28' 5/32" ss wire and 25' 5/32" ss wire (both never used w/attached eyes). RICHARD DOWNES, 24 Sewall Dr., Mashpee, MA 02649 (11)

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Egret 17' Skin-on-Frame Kayak, easy to build; many covering options. Plans, patterns, detailed instructions. \$55. SASA for more info. ROSS MILLER BOAT DESIGN, P.O. Box 256, West Mystic, CT 06388. (11P)

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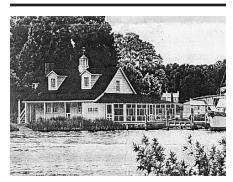
A \$400 Touring Kayak for \$85? Yes! Just spend an easy 10 hours & you'll have Li'l Beauty, a nationally advertised 39lb 2-person, perfect for camping, fishing or just exploring. Send \$20 for the complete building manual. HOBBYCRAFT BOATS, 1178 Laurel Fork Rd.,

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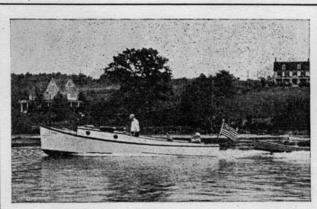
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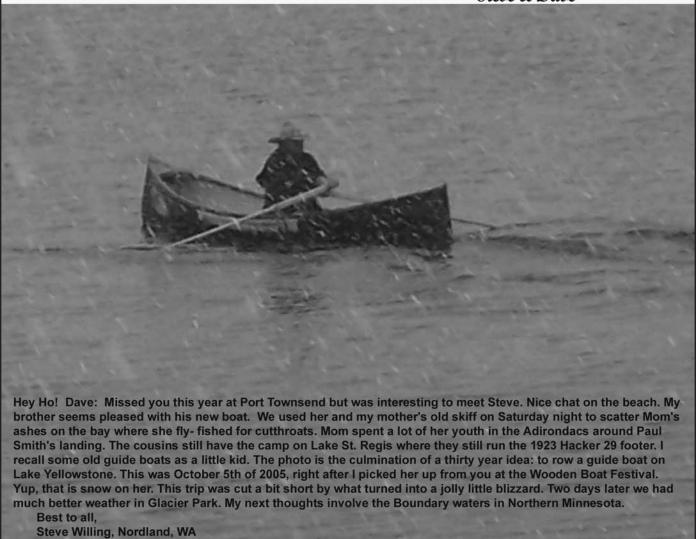




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By the time you read this our shows for 2007 will have been completed. We don't yet have the line up for 2008 but we'll get that buttoned up and posted pretty soon. Folks often assume our slow months are January & February....in fact those months are quite busy. November and December are slow. So...if you buy before the end of the year we'll take 10% off of new boats, 15% off of blems and demos. You needn't take delivery until the Spring. This doesn't apply to wooden boats or kits.

Best regards to all, Steve & Dave



XXV-12

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